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New York Teachers' Monographs

Sidney Marsden Fuerst, Editor

Methods in New York Schools

Prepared under the direction of

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First Assistant, Public School 16, Borough of Manhattan.
Supervisor of Free Lectures, Borough of Queens.

This number has been prepared under the direction of
ALFRED T. SCHAUFFLER,
Associate Superintendent of Schools, New York City.

Contents for June, 1900:

INTRODUCTION, - - - - - - - - - - - - - - - - 1
ALFRED T. SCHAUFFLER.

COMPOSITION. INTRODUCTION, - - - - - - - - - - - - - - - - 3
WILLIAM H. MAXWELL.

PLANS OF TEACHING COMPOSITION, - - - - - - - - - - - - - - - 8—25
By Jeannette Hecht, Elizabeth H. Ellis, Estelle Cohn, Adelaide Burnett, Winifred G. Ochlhoff, Anna M. Ettinger, Elizabeth Brundage, Frances Morris, Minnie Shadel, Mary C. Jackson, Sarah M. Ferguson, Maud I. Price, Viola Yoerg, Lillian Darling, Agnes M. Walker, Mathilda Beck, Mary Louise Bishop, Jennie E. Rowe, L. Stork, Amelia A. McCready, Joseph G. Furey, David Birch.

WORD STUDY. INTRODUCTION, - - - - - - - - - - - - - - - - - 26

PLANS OF TEACHING WORD STUDY, - - - - - - - - - - - - - - - 27—43
By Anna Marie Laube, Jennie W. Lennox, Ida Louise Hardy, Margaret A. V. Hoare, Elizabeth Mahony, Margaret M. McCarthy, Isabella Levy, Mary F. Gleason, Stella Schonfeld, Minnie Shadel, Rosina Pyne, Olive M. Jones, Rose M. Matthews, Mary M. Lilly, Kate E. Ryan. Rose Ralbe, Florence S. Tremper, S. Agnes Smith, Joseph G. Furey, Kate Miller.

NATURE STUDY. INTRODUCTION, - - - - - - - - - - - - - - - - 44

PLANS OF TEACHING NATURE STUDY, - - - - - - - - - - - - - - - 45—70
By Marian S. Purdie, Josephine Knakal, Mary A. Knox, Philippina Daum, Lillie F. Thorne, Elise M. Feuring, Jennie L. Ross, Grace Wiley, Hildegarde Rabing, Marianna Shutes, Amanda Warts, Helen E. Donlon, Johanna F. Vogel, Eliza M. Hatch, Josephine M. Chudoba, Mary Walseman, Isabelle M. Monroe, Rachel Pitcairn, Emily Newton, Mary R. Young, Joanna Stafford, Frances J. Cronah, Hugo Neuman.

GEOGRAPHY. INTRODUCTION, - - - - - - - - - - - - - - - - - 71

PLANS OF TEACHING GEOGRAPHY, - - - - - - - - - - - - - - - - 72—92
By Marybelle Lounsbury, Janet Weil, Mary J. Greene, Alice Foran, Annie A. Callahan, Mary Rose Collins, Margaret Lang, Ida J. Guiles, Minnie Lutz, Sara J. Keenan, Louis J. Falk, Monah M. Morgan. Frank A. Schmidt, Edward F. McSorley, Edward W. Rice.

HISTORY. INTRODUCTION, - - - - - - - - - - - - - - - - - - 93

PLANS OF TEACHING HISTORY, - - - - - - - - - - - - - - - - - 95—112
By Eleanor C. Gleason, Alys J. Dabour, Mary H. Herbert, Lulu R. Kirkman, Marion E. Watkins, Mary A. Murphy, Margaret L. McKeon, Annie V. Kielly, Mary A. Conlon, Adelbert B. Hunt, Wm. A. Chatfield, Henrietta Fishblatt, P. F. O'Shea, Thomas S. Constantine, Elijah Jenks, Grace E. Grannatt.

ARITHMETIC. INTRODUCTION, - - - - - - - - - - - - - - - - - 113
AMOS W. FARNSHAW.

PLANS OF TEACHING ARITHMETIC, - - - - - - - - - - - - - - - 118—132
By Ellen M. Phillips, Rachel Cohen, Annie E. Gibbs, Emma Edwards, Eleanor L. Toner, Laura Morrison, Emma Sylvester, A. M. Schultz, Marianne Brennan, Sarah Breese.

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New York Teachers' Monographs.

NEW YORK METHODS.

JUNE, 1900.

Introduction.

By ALFRED T. SCHAUFFLER, Associate Superintendent of Schools, New York City.

A WORD of explanation with regard to the contents of this number of the Monographs seems to be advisable. The exhibit from the schools of New York City, which has gone to Paris, was limited by the conditions imposed upon us by the authorities in charge of the educational portion of the exhibit. Far less space is accorded to the City of Greater New York than was occupied at Chicago in 1893 by the old New York City, now the Boroughs of Manhattan and The Bronx.

The entire exhibit from the whole city will occupy a space which would extend about twenty feet along the side of a room, not over eight feet in height, and extend out from the wall not more than twenty-four inches. In this space are to be shown all our exhibits, from the kindergarten through the high school. It is evident that comparatively little of the original work of the pupils could be shown. We have been obliged, therefore, to use photographs to a very large extent—not only photographs of buildings, class rooms, classes, individuals and apparatus, but also photographs of the work of the pupils.

In order to illustrate clearly and in detail the course of study laid down for our schools, two classes of each grade were selected, almost at random, to exemplify the work done in each of several subjects. These classes sent in specimens of work done during the term, so that the actual work of the pupils could be shown in each subject, from the point in the course of study at which it is taken up, to the time when it is completed.

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Each teacher whose class was selected to take part in the exhibit was requested to submit a brief statement as to what is required in the grade by the course of study, what methods are pursued in endeavoring to cover this ground, and what results are expected and attained. These statements are typewritten and are bound into the volumes sent to Paris, each teacher's statement preceding the work of her class.

The Committee in charge of the exhibit has been very much pleased with the results attained and with the high grade of excellence of the work submitted, and they believe that the teachers of the city will be glad to have an opportunity to see what others are doing along the lines which are of interest to them. It must be remembered, in reading these statements, that the writers were limited to a certain number of words, and that it was found exceedingly difficult to put all that they wanted to say into the condensed form necessitated by the exigencies of the case.

It was the intention, when this plan was adopted, to have at least twice as many statements submitted as could be used and to select the best for exhibition. More than two hundred such statements were submitted, and in almost every grade of every subject all the statements submitted have been accepted and used.

In this issue of the Monographs, only a part of the statements for each grade are printed, and it is very gratifying to be able to state that those not selected for publication here are quite as worthy of preservation as these.

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Composition.

INTRODUCTION.

WILLIAM H. MAXWELL, City Superintendent of Public Schools, New York City.

I HAVE been at some pains to discover a way by which children's efforts to master written expression in the mother tongue might be facilitated while the burdens of teachers in correcting composition might be diminished. The results of my investigations which have been published in another place, are given below:

Professor George R. Carpenter put it none too strongly, complaining of the unhappy lot of the college instructor in rhetoric, when he said that he "has too frequently narrowed his interests and perhaps even debauched his intellect by confining himself for years to the incessant reading of themes merely made to order by tired, lazy, or indifferent students." If this be the effect of theme-correcting on a man who deals with essays written by young men and young women from eighteen to twenty years of age, who have completed the grammar school and the high school courses, and who have passed an examination in English in order to enter college, how dreadful must be the drudgery of the teachers who correct the compositions of mischievous boys and careless girls twelve to fourteen years of age in the grammar schools! The plight of the grammar school teacher is worse than that of the college instructor in so far as her pupils' minds are less mature, their knowledge less extensive, and their powers of language less developed. Add to this that composition is only one of seven or eight subjects which the grammar-school teacher is required to teach, and a layman may form a slight, but inadequate, idea of the difficulty and drudgery of that teacher's work.

Such being the case, it is surprising that so little attention has been paid by writers on methods of teaching to the matter of theme-correcting. On all hands it is admitted that a child should learn to speak and write his mother tongue clearly and accurately. It is also admitted that the correction of errors is essential to the securing of this result. Yet to the development of a systematic method that should interest the pupil in the work and economize the time and energy of the teacher, but slight attention has been paid. As a rule, the manuals of elementary composition do little more than supply lists of symbols—modifications in greater or less degree of

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the proof-reader's marks—by which the teacher is asked to indicate in the margin the mistakes she finds in the body of the composition. When one seeks for information in the books on methods of teaching most frequently resorted to by the teacher, the dearth of discussion and suggestion is even more remarkable. Mr. Fitch, in his "Lectures on Teaching," has not a word to say on the subject. Dr. E. E. White, in his "Elements of Pedagogy," is equally silent. So is Johonnot in his "Principles and Practice of Teaching," and Page in his "Theory and Practice of Teaching." Superintendent Greenwood, in his "Principles of Education Practically Applied," says: "It is not intended to go into any elaborate accounts of methods of correcting compositions * * * . Minute directions for marking all errors are given in most treatises on compositions, so that I have but few suggestions to offer." He then proceeds to lay down some general directions, as that "the pupil should write a bold, legible hand," among which is one of really great value: "In all cases of doubt the pupil, if somewhat advanced, should consult the dictionary and English grammar." I regard this suggestion, natural and commonplace as it may appear, as of really great value, because I have found it in no other book on methods written in English, and because after some years' experience in dealing with some thousands of teachers, I have not discovered one who adopted it systematically until she received the suggestion from outside.

Mr. Prince, in his "Courses of Studies and Methods of Teaching," treats the subject somewhat more fully. He first gives the method that has been most usual in schools of this country. "It is well," he says, "to have each pupil, below the first year, provided with a language exercise book * * *. Upon the left-hand page the language exercises can be written; and upon the right-hand page the same exercise, after it is corrected, can be re-written in a correct form." To lighten the work of the teacher, he suggests that "some corrections may be made at the time of writing, the teacher passing among the pupils and pointing out their errors; but," he adds significantly, "most of the errors will have to be corrected after the papers are collected."

The method laid down by Mr. Prince is, as has been stated, the most usual method. It embraces three steps; the writing on a theme by the pupils; the marking, by the teacher, of errors in what the pupils have written; the re-writing, by the pupils, of their compositions in such a way as to correct the errors marked by the teacher.

In practice, I have found this method open to the most serious objections. The reading of compositions in order to correct errors lays an intolerable burden on the already overburdened grade teacher. In this monotonous "grind" she consumes the energy that should be devoted to the preparation and execution of class work. The drudgery for the teacher being so irksome and blighting,

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she is naturally led to diminish the number of compositions written: so that the pupil does not receive sufficient practice in writing; one composition a week is probably the maximum under this plan, while one every fortnight is more nearly the rule. At this rate, only those endowed with unusual powers of language ever learn to write with facility. But when the work of the teacher degenerates into mere drudgery, it is apt to become the same for the pupils. So it certainly is in this case. As the children have no facility in composition, the first writing is drudgery; as they are required to copy, after a lapse of some time, what has been corrected by the teacher, the copying process becomes more irksome even than the first writing; it is always perfunctory and generally abhorred. Since this has been the method commonly pursued in the higher grammar grades and in high schools, it is little wonder that the colleges find their students at entrance miserably deficient in the .writing of English.

To escape this drudgery, teachers have suggested various modifications of this plan. One of these modifications, which may be taken as a sample of the others, is thus described by Mr. Prince: "Let as many pupils write their exercises upon the blackboard as can be accommodated there and call the attention of the entire class to the corrections you make in each, frequently appealing to the class for assistance. When some of the corrections have been made ask the pupils to re examine their papers and mark the errors they see, then after exchanging papers they may correct the mistakes of one another. After all this is done, the teacher, by glancing over the papers, can tell whether they may be copied into the language books as they are, or whether another recitation will be necessary to correct the papers."

While this method is a great improvement over the first described, it is defective in unnecessarily disclosing a child's errors to his classmates and thus exposing him to humiliation, in not exciting interest, in not exercising sufficiently the child's critical powers on his own work, and in not making use of the child's knowledge of grammar and related subjects. Moreover, it still calls for considerable burning of the midnight oil on the part of teachers, because the glancing over the papers, which Mr. Prince recommends, generally means many hours of tedious reading and perfunctory use of a blue pencil and red ink.

Before venturing to suggest what seems to be a better way, it may be well to set down some rules which the experience of the best teachers has developed regarding theme-writing.

(1) Anything we desire to learn—particularly when it is something we have to do—is best learned by practice on successive days. Hence it follows that in the grammar school, at least during the last two years, there should be a period, however short, devoted to composition writing on each school day.

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(2) "No man or boy," as Professor Carpenter puts it, "can be made to write really well unless he writes for the purpose of expressing thought." Hence, the matter of the composition should always be selected from the class work in which the pupil is engaged—his history, his geography, his reading, his mathematics, his personal observation and experience.

(3) The composition period should be devoted exclusively to the composition work. President Eliot has pointed out that this work is needlessly complicated by trying to teach the art of thinking and the art of expression in the same lesson. The thinking part should receive attention in the lesson on the subject-matter; the expression of the pupil's thoughts should form the staple of the composition lesson.

(4) The doctrine of the co-ordination of studies admonishes us not only to take the subject-matter from one of the other studies, but to allow the pupils to make use of their grammars and dictionaries whenever they so desire. If, in writing, the child is at a loss for a fact, let him have free access to the book where it is to be found; if he is in doubt about a point in grammar, let him examine the text-book; if he does not know how to spell a word, let him look it up in a dictionary, and so on. The report of the Conference on English to the Committee of Ten says very wisely: "The teaching of formal grammar should be, as far as possible, incidental, and should be brought into close connection with the pupil's work in reading and composition."

As the acquisition of a clear and correct style of writing is largely a matter of imitation, the pupil should be taught in his reading lessons to examine the style of what he reads, and even to select and study models for imitation.

(5) During the years of school life which must precede the writing of themes, the child should be very thoroughly drilled in the formation of typical sentence forms. The report of the Conference on English, alluded to above, puts this matter very strongly: "The teacher should bear in mind that the necessity of correctness in the formation of sentences and paragraphs is like the necessity of accurate addition, subtraction, multiplication and division in mathematical work, and that composition proper—the grouping of sentences and paragraphs—as well as development of a central idea, should never be taught until this basis of correct sentences is attained."

(6) But even when the utmost care has been given to these preparatory exercises, children will make many blunders in their composition work. For the correction of errors, I have tried the following plan with most gratifying results: The pupils of a given class are asked to write what they can on a topic selected from the class work of the preceding day. They are allowed from ten to fifteen minutes in which to write. After a few weeks of daily

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practice in this work, the child has no difficulty in writing in this time a composition sufficiently long for all practical purposes. Then each pupil is asked to read silently his own composition, to discover whether each division of the subject-matter has a paragraph to itself, and whether all he has to say on that division is contained in that paragraph. If he finds his work faulty in either of these respects, he is told to correct it at once, not by making a proof-reader's marks in the margin, but by erasing and interlining, as becomes a writer of manuscript.

Then the pupils are told to read each his composition a second time, to determine (1) whether each sentence has one, and only one, central thought; (2) whether the concords between subjects and verbs, antecedents and pronouns, are correct; (3) and whether there are any mistakes in capitalization and punctuation. In making these investigations the pupil is to have the free use of his grammar and, if he is in doubt, should be encouraged to apply to his teacher for counsel and assistance. In answering the first query he should mentally divide each sentence into its complete subject and complete predicate. All mistakes are corrected as they are found. While conducting my own experiments on this method, I was surprised to find how few children had ever learned to use the index to a book.

Lastly, the children should read the composition a third time, under instruction to take care that every word is properly spelled.

When the child is in doubt he should at once look up the word in a dictionary.

The reading aloud of two or three compositions each day and the questions referred by the pupils to their teacher, show how well the work of correction has been performed.

The results of this method, as far as I have been able to ascertain them, indicate that the composition lesson, instead of being a season of deep depression, is one of the most interesting periods of the day, and that the majority of the pupils acquire facility not only in expression but in correcting their own errors. By looking for one kind of error at a time, nearly every important error is detected and corrected. With practice, children soon learn to avoid the errors they are constantly called upon to correct.

It may be added that, after a few trials, all of this work may be done within a period of thirty minutes.

The only objection that has been brought against the method is that in each class there are found a few children who, while pretending to look for their errors, are really doing nothing. This objection, however, is easily overcome by the teacher's calling such children to her desk and requiring them to go through the various exercises under her immediate direction.

The compositions, after they have undergone these processes of erasure and interlineation, do not look so pretty as compositions

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that have been slowly and painfully copied after being interlined by the teacher. To the uninitiated they would not appear so fine, if shown at a World's Fair educational exhibition; but to the experienced eye they tell of honest and intelligent effort on the part of the child, and of burdens lifted from the shoulders of the teacher.

Composition.

FIRST YEAR—SECOND HALF.

The formal requirements of the Course of Study are: Copying words and sentences; special attention to the correct use of language.

The aim of the work is (*a*) to train pupils in the ready use of good English; and (*b*) to help them acquire readiness in expressing their thoughts.

The work of this grade is largely conversational upon tales and stories told or read to pupils; on their individual experiences; on their observation of animals, plants, and other objects found in nature; upon pictures; upon their observation of the weather.

The method of presentation is the following: When the child looks at an object or picture, that element which makes the strongest impression is apt to call forth oral expression. After a few days, the teacher's questions direct attention to the essential features, and lead to an appreciation of the motive underlying the art of composition. Only such objects and pictures are presented as fit into the child's world. By taking note of the clearest statements and having the authors repeat them in a certain order, the teacher develops an oral composition of considerable excellence. Expression of the child's knowledge forms an important feature of the exercise. The best of their statements or "stories" are written on the board and copied by the class. These are read by the pupils who are deficient in language. Here the power of imitation is brought into play. A pupil soon learns to recognize the best speakers, and their language in turn improves when they see their sentences written upon the blackboard and held up as models for their companions.

Correction of errors in capitalization, spelling, and modes of expression, are made by the teacher in the class. In this way she gets the children to recognize the beginning and end of a sentence, which is the foundation of formal language work. The end in view is to establish the limitations of the sentence as the expression of a well-rounded thought.

Jeannette Hecht, Class Teacher, P. S. No. 89.

FIRST YEAR—SECOND HALF.

The language work in 1B is a continuation of the work in 1A, conversations upon pictures being added. The pictures should

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be on subjects that the child understands and can talk about freely.

The work in conversation should be drawn from what the child has seen, read about, or from the nature work he has studied. For example, should the nature lesson be on a flower, the children are asked to tell about that characteristic which most interests them. From their sentences, say twelve or fourteen, I take the three or four best expressed, and write them on the blackboard. Sometimes I draw a picture illustrating the subject, and let the children copy the sentences and the picture.

In this work less attention is given to writing than during the regular writing lesson. It is very difficult for little children to copy a sentence which appeals to their imagination and at the same time think about the formation of letters. The fact that the child makes an effort to do his best is the principal thing.

While a child is giving a sentence, I do not correct grammatical errors. We want to get his thought, and to encourage him to talk. If he is frequently interrupted for correction, he becomes shy and forgets what he was going to say. When he has finished, I ask some other boy to tell the same story in another way, then a third, and thus gradually correct the mistakes. In calling on boys, I select those that speak most correctly so as to let the children have the benefit of the best models. In this grade one cannot always give the reasons for the corrections, but where it is possible I do so, as it makes a more lasting impression on the child's mind.

In the beginning, the reading is from the blackboard. I develop the sentences from the children. To do this, I select the new words for my reading lesson, and lead the children to use them. In this way I get the required sentences. Blackboard work makes the lesson more interesting.

When the reader is used, I find it always a help to talk about the lesson first so as to arouse the interest of the child. It helps the child to read more naturally. This is one of the most difficult tasks in teaching little children to read. No child can read well unless he grasps the thought expressed in the printed matter. It is of course necessary that the child should recognize all the words before the lesson begins.

Elizabeth H. Ellis, Class Teacher, P. S. No. 58.

SECOND YEAR—FIRST HALF.

During the second year, the work in language is carried on in connection with the study of different forms of water, air and sunlight, common and domestic animals and birds, and the reproduction of short stories and fables.

The children are asked to relate the events of a day in the school-room, their observations on the way to school, to express thoughts that may be aroused by looking at a series of pictures, etc.

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A subject calculated to sustain and increase the interest of the pupil is chosen for a lesson and presented in the conversational form. Topics of local importance are introduced, so that the children may be led to observe and think about common occurrences.

Again when the work is based upon an object that can be seen and examined, children are asked to talk about it, care being taken that their statements are given in the form of complete sentences. The teacher suggests such words as may be needed to make the subject clear, and to assist in correct verbal expression.

After every child has given a simple, correct, oral expression, the children are required to write what they have said.

The difficult and comparatively new words are placed on the board, but the words which are included in their own vocabularies must be written without assistance.

Many errors are anticipated by the methods employed above, so that comparatively few mistakes are made in the written work. Incorrect spelling and the faulty construction of sentences are never allowed to remain uncorrected, though the child is not always asked to re-write his sentence or paragraph. When it is within the capacity of the children illustrations are encouraged.

Estelle S. Cohen, Class Teacher, P. S. No. 103.

SECOND YEAR—FIRST HALF.

In this grade I continue the work in conversation of the preceding year,—conversation on the pupils' observation of the forms of water, air and sunlight are added.

In these conversations I ask the pupil to look not at the object itself, but at the picture existing in his imagination. He is familiar with the Hudson, with the ponds and lakes of Central Park and with the effects of the different winds. By asking one child to tell what he knows about the Hudson and allowing him to talk as long as he keeps to the subject before calling on another pupil, I develop sequence of events and thus establish connected thought.

The child in this grade is expected to tell a complete story; one appealing to the imagination is the best. While telling his story the child is encouraged to select those thoughts which carry the narrative forward. Facts of importance that have been omitted are supplied by other pupils.

A few of the leading facts are selected and written on the blackboard. Several pupils are called upon to read these sentences. When a pupil is ready to read, I allow him to do so, thus insuring a correct expression of the subject matter in pleasant tones. The children then copy the sentences from the blackboard. Simple drawings by the pupils add interest to the work.

In the course of a recitation something of importance may come up which I desire to impress upon the minds of the children. I

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reduce these facts to a few simple sentences, place them on the black-board, and let pupils copy them.

The original sentences are the outgrowth of some lesson in nature work, or are selected from oral reproductions of stories or from the reading. By taking note of the clearest statements and having these repeated, an oral composition is developed which leads to the written one. In correcting the language of the pupil, I allow him to complete his story, and then have some bright pupil make the correct statement. The child will soon recognize the correct form and thus acquire a habit of speaking correctly.

After the children are thoroughly familiar with the sentence form, dictated sentences are given. They are drawn from nature work or from reading. The spelling is taught by the analysis and synthesis of words by their phonetic elements.

Adelaide Burnett, Class Teacher, P. S. No. 58.

SECOND YEAR—SECOND HALF.

COURSE OF STUDY.—Conversations as in the preceding grade, and upon the food, habits, and characteristics of familiar animals; upon the leaves, flowers, and fruits of familiar plants, and upon the conditions of their growth; oral reproductions of fables, tales, and stories; copying short paragraphs; writing original and dictated sentences; special attention to the correct use of language; recitation of prose and poetry.

From the course of study it may be seen that language work is made to grow out of the subject-matter of the content studies. The effect of good teaching is clear thinking, and clear thinking leads to correct expression. Hence, the teacher tries to increase the child's knowledge, in order that he may have something to express in writing.

Plan of lesson given on "The Cat."—The teacher asks children what a cat eats, and as their answers are given, she writes them on the blackboard in abbreviated form:

A cat eats { meat, fish,
mice, birds,
bread, porridge.

Deduce the fact that it eats both vegetable and animal food, but prefers animal food. Call attention to the sharp teeth.

Ask where the cat gets the mice. Some one who has seen it catch a mouse describes its actions. Direct attention to the claw-sheath and cushioned feet. From this conversation, draw the facts that the cat is patient in waiting for prey, sly, quick in pouncing, cruel to her prey. Write on the blackboard

The cat is { sly, patient,
quick, cruel.

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After questioning about its behavior while in the house and towards people, add that:

The cat is { playful, fond of sleeping, affectionate, fond of place.

Illustrate its fondness of place by stories of cats that have refused to move with families.

Ask "Who has seen a cat escape from a dog?" The child who has may say: "It can spring to the top of a fence or climb a tree." Add to the list on blackboard that:

The cat { springs several feet, climbs easily.

Cats can climb a tree, but cannot come down as a squirrel does. Ask the children why.

The synopsis of each group of facts may now be read by the class, and pupils be encouraged to copy in full whatever they contributed to the work, and any other portion that interests them. This is the first step in written composition.

Winifred G. Ochlhoff, Class Teacher, P. S. No. 9.

SECOND YEAR—SECOND HALF.

Practically the writing of "original and dictated sentences," and the "copying of short paragraphs," constitute the prescribed course in Composition in this grade. The work is largely supplementary to that done in the preceding grade, in which words and their meanings and application form the basis of study in this subject.

From words which have been dictated the children select one or more for use in original sentences. As these words have been made familiar in the lessons of the grade, they suggest the subject matter; so the thought being in the mind, the pupil is free to choose his mode of expression when describing familiar objects or personal experiences.

One method which I have found very effective in the correction of the errors is to allow the children to read to the class the sentences constructed by them. If they are unable to correct their mistakes, other pupils are permitted to assist them. This gives each member of the class an opportunity to compare his work with the form of expression used by the pupils that speak the best English. Children are quick to decide which is the best model and to imitate it. This exercise is, moreover, a preparation for the work of "Dictated Sentences," which follows.

Sentences from fables, stories, etc, which have been related in connection with some subject of the grade, are reproduced by the children, orally, and written upon the blackboard by the teacher.

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After perusal they are erased and dictated to the class. They are again placed on the blackboard for inspection and comparison. Errors in capitalization, punctuation and spelling are noted. For a second time the sentences are erased and dictated.

The part of this work termed "Copying short paragraphs" is a logical outcome of conversation upon various subjects of the grade work, such as nature study, national holidays, important personages, etc.

To broaden the imagination and further cultivate expression, pictures and other illustrations are introduced. Correct statements, expressing the thoughts suggested by the pictures having been obtained from a number of the children, an appropriate selection is made from them, arranged as a paragraph, written upon the blackboard, and afterward copied by the class. When practicable, to more readily elicit from the children direct responses regarding salient features of the pictures, the method of suggestive questioning is used.

During all oral as well as written work, close attention is given to the correct use of language.

Anna M. Eltinger, Class Teacher, P. S. No. 163.

THIRD YEAR—FIRST HALF.

In this grade we have conversation upon tales, stories, animals and birds. From these conversations the child reproduces in his own language whatever he thinks worthy of record. Descriptions of animals and birds are generally written from topical outlines which the teacher puts on the blackboard. In addition, the teacher tells or reads short fables and myths. These are reproduced from memory by the children. The simple standard letter form is taught from the blackboard, and later the child uses this form in writing original letters.

In the conversation work, special attention is given to the correct use of language, and this work is correlated with reading and nature study.

When the compositions are written the child is sometimes allowed to illustrate his own work either by memory or copied drawings, or by pasting on his paper pictures relating to the subject.

The method of correcting or indicating the mistakes is as follows: The child writes a rough draft of his thoughts. The teacher then calls attention to the errors in spelling, punctuation and language by pointing out the most common mistakes to the class as a whole, and each child is afterward encouraged to correct his own work. Once a month, however, she herself corrects the individual papers of the children, and each child re-copies his work from this corrected draft.

Elizabeth Brundage, Class Teacher, P. S. No. 87.

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THIRD YEAR—SECOND HALF.

The Course of Study outlines the work in composition for the third year, second half, as follows: "Brief compositions based upon familiar objects, pictures, incidents, and individual experiences." This division permits during the school term five weekly compositions under each heading.

Grade 3B is the first in which the child is forced to depend entirely upon himself for the logical arrangement of the written expression of thought, compositions in the grade preceding being from suggestive questions or topical outlines.

The subject for composition having been assigned, during part of the time allotted to conversation lessons the pupils are asked to tell all they have learned in reference to it. Attention is fixed on whatever is worth remembering, and necessary facts that cannot be elicited by questioning are given to the pupils. In this way, when the time comes for writing, they have a fund of information on which they can draw.

The following is the method employed by me in giving a lesson in which a picture is used for descriptive and imaginative work:— In some cases individual pictures are distributed, but generally only one is placed before the children, who quietly study it and then tell what they see. They are trained not only to notice the objects, but their relations; they are led to study the picture with a view to the discovery of those facts which may be inferred, as the time of day, the season, the character of the people, etc.; they are questioned for the purpose of suggesting the things they have failed to notice. The pupils are now ready to write in story form their own interpretation of the picture.

After the compositions have been written, the general mistakes, as the wrong use of capitals, misspelled words, etc., are corrected by the little authors.

After the preparatory instruction, let the pupils write the composition. When the limit of time is reached let one pupil read his effort aloud and make the form and scope the subject of a short criticism. Call for the reading of other efforts containing additional facts or presenting a different arrangement of matter. Encourage the class to make comparisons and to correct verbal and grammatical errors.

Permit the pupils to rearrange, improve and rewrite their work. The teacher should render direct assistance to as many pupils as possible during each exercise, but the pupil's power to revise his own work should be the test of successful teaching.

Frances Morris, Class Teacher, P. S. No. 46.

FOURTH YEAR—FIRST HALF.

Composition in the fourth year, first half, calls for written reproductions of short stories and of oral instruction received in

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history, geography, and elementary science; and for statements of individual experiences.

In teaching, appliances (maps, charts, pictures, etc.), that contribute to the child's better understanding of the subject in hand were used. The pupils were encouraged to visit, if possible, places of historic interest in New York City, and to read library books relating to the studies of the grade. Current events, such as the Dewey celebration, the centenary of Washington's death, historic events, such as the first Thanksgiving by the Pilgrims, and similar topics, were discussed in the class-room by teacher and pupils.

One subject a week having been fully explained by the teacher, the pupils were required to write what they remembered about it. The collected papers were criticised orally in respect to thought and expression, by both teacher and pupil.

One set a month, however, received the careful personal criticism and correction of the teacher, all errors in punctuation being designated by the letter P, those in capitalization by C, and and spelling by S. The corrected words were placed on the board, and the work was re-written by the pupils.

The same method applies to all subjects under this head. In letter-writing, the pupils were called upon to write a note asking some friend to visit them, or to write one of thanks for some invitation or gift received; this was followed by a letter to a schoolmate, parent or teacher.

Minnie Shadel, Class Teacher, P. S. No. 22.

FOURTH YEAR—SECOND HALF.

The Course of Study as it applies to the second half of the fourth year, requires written compositions of the following kinds: Historical stories, biographies, individual experiences, description of objects connected with elementary science; letter-writing; notes and letters of friendship.

A composition on one of these subjects is written in school in the presence of the class teacher once a week. These efforts are then collected and are subsequently returned to the pupils with errors indicated by the teacher, who uses for the purpose of correction the code of symbols employed throughout the department.

Notes are made of the prevailing errors in paragraph divisions, capitalization, spelling, etc. These furnish the teacher with information that guides her in conducting the language work of the grade.

The pupils are requested to re write their compositions once a week after the originals have passed the scrutiny of the teacher. In this school particular attention is given to composition owing to the fact that the population of the district is made up largely of Russians and Bohemians. Ninety-eight per cent. of our pupils speak a foreign language at home.

Mary C. Jackson, Class Teacher, P. S. No. 75.

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FIFTH YEAR—FIRST HALF.

This grade calls for narrative and descriptive compositions; letters of friendship, inquiry and application.

The children of this class come from homes having the following conditions:—

Parents of Italian birth	24
" " German "	8
" " Russian, French and Belgian birth	5
" " Irish, English and Scottish birth	10
" " American birth	1
" unable to write English	22
" unable to understand English	12

Teaching English composition has its difficulties; but when, to the usual problem, the factor of foreign-born parentage is added, together with environments that offer few, if any, opportunities for literary study, the task becomes still more difficult.

During the five years preceding school life, years that furnish so much to the child's vocabulary, these children speak only in foreign tongues: therefore, the foundation in English is practically lacking, nor can the school entirely supply it.

This limitation is apparent in all the language lesson, and calls for an unusual amount of drill in simple sentence work, to develop the habit of expressing thought in sentences modeled on English forms. The mass of material given by the pupil is often very chaotic, even though the subject be a very familiar one. This material must be rearranged so that the thought structure may be made clear, sentence by sentence. At first the teacher leads in the rearrangement of the work but the burden of reconstruction is placed eventually upon the pupils.

Besides writing the weekly composition in school, the pupils of this grade are encouraged to write at home paragraphs describing and narrating their own experiences. Many of them bring these paragraphs to school for the teacher's inspection, and they are read, discussed and corrected in the class-room.

To train the critical habit, copies of pupils' compositions, sentences and phrases are placed upon the blackboard for class criticism. A very few diacritical marks are employed to indicate definite errors. Their purpose is merely to say to the child, "Something is wrong; find out what it is; correct it."

After the children are familiar with its content, the reading lesson is used to illustrate construction, attention being called to various "good ways of saying things." All subjects are taxed to furnish practice in acquiring ease in thought expression, even arithmetic yielding its quota, and all, in this way, make for unity.

Sarah M. Ferguson, Class Teacher, P. S. No. 8.

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FIFTH YEAR—FIRST HALF.

Careful attention is given to the matter of selecting topics that will be of interest to the children—a number being based on the lessons in history, geography, and elementary science. Letters are written once a month.

The subject is presented to the class for consideration early in the week, and the children are encouraged to consult books of reference at the neighboring library. The subject is then made the basis of the language-lesson in the class-room. After a thorough discussion of the subject matter, the compositions are written.

These efforts of the pupils are written in school, in the presence of the class teacher. They are then collected and are subsequently returned to the pupils with the errors indicated by the teacher, who uses for the purpose of correction the code of symbols employed throughout the department. The pupils are requested to re-write their compositions after the originals have passed the scrutiny of the teacher.

Particular attention is given to this subject, owing to the fact that in this school, situated as it is in a district made up largely of Russians and Bohemians, ninety-eight per cent. of the pupils speak a foreign language at home.

Maud I. Price, Class Teacher, P. S. No. 75.

FIFTH YEAR—SECOND HALF.

COURSE OF STUDY.—Narrative and descriptive; the elaboration of short stories supplied by the teacher; letter-writing—business notes; letters expressive of the pupils' individual experiences.

METHODS.—In the selection of subjects, care is taken to correlate the composition work with the other studies of the grade, as history, geography, zoology, literature, etc. In letter-writing, topics that will be of practical value to the pupils are selected.

Pupils are encouraged to illustrate their compositions with their own little sketches and also by the use of pictures obtained from magazines, advertisements, etc.

The subject of the composition is first thoroughly discussed by the teacher of the class. While writing, no question is allowed to be asked, perfect silence being demanded, that the children may give their full attention to the subject in hand.

During the week, every composition is read by the teacher and notes are made of the most common errors in composition, punctuation, and spelling. Very poor sentences are marked with a cross. Two or three days after the writing, the compositions are returned to the pupils, who correct their own mistakes. The poor sentences are read in class, and oral corrections are encouraged.

When a composition is to be re-written, the teacher indicates the errors by marks in the margin. The children correct these errors as indicated, and make a clean copy of the work.

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The following is the Code of Signs used in correction:

S.—Spelling.	P.—Paragraph.
P.—Punctuation.	no P.—No paragraph.
gr.—Grammar.	w.—Wrong word.
C.—Capital.	o.—Omit.
no C.—No capital.	x.—Poor sentence.

Viola Yoerg, Class Teacher, P. S. No. 9.

FIFTH YEAR—SECOND HALF.

The work in composition, however, cannot be considered an isolated fragment of the school curriculum. It is rather a part of that branch of its educative process which deals with the form as contrasted with the content studies. The intimate and vital connection between these two branches of school work must always be kept in mind lest empty verbalism be used to express vague and hazy knowledge.

Correct expression leads to thinking; words are the indices that show the mental train which is engaging the activity of the pupil. "Definite thought means definite expression, while vague expression means equally vague thought. No act of thought is complete until its products have been set forth in words." Great care is consequently taken that proper expression accompanies all thought work.

The compositions in this class are intended to train the logical faculty by inducing in the child an orderly and well-arranged sequence of ideas, based not merely upon sensuous associations, but rather upon an organic unity of causal connections.

The imagination of the child, that faculty, of all, the most subjective, and the least capable of direct training, was called into activity in two ways: first, through cultivating its expression by means of illustrative drawings; and secondly, by presenting proper educative material to call forth the appropriate activity. Scenes from nature, stories from history and geography, which caused the pupils to create ideal scenes, were used for this purpose, in connection with selections from literature—the crystallized experience of the race.

The moral nature of the child was reached by the presentation of stories having an ethical content, which aroused and enlisted the pupils' interest in behalf of the good, the true, and the beautiful.

Finally, the grade requires that some attention be given to certain conventional modes of expression, which, while not having any intrinsic, ethical, or specially high intellectual value, are of importance in enabling the child to adapt herself to her environment. Business letters designed to fill this requirement of every-day life were written frequently.

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The work in composition consequently aimed at the harmonious development of all the powers of mental life that can be expressed in language. The method was such as would employ, to the greatest extent possible, the self-activity of the child. For the sake of convenience, we shall divide the method into two parts.

THE METHOD OF WRITING.—If the subject of the composition was one that had been taken up previously in one of the branches of the class-room work, the preparation consisted of an orderly review of the salient points of the lesson. If the matter was new, it was presented to, and discussed by the pupils, and the compositions were then written.

THE METHOD OF CORRECTION.—The compositions were partly corrected by the pupils themselves. This was accomplished by a free exchange of question and answer between teacher and pupils. The class were then called upon to correct all errors in their own composition similar in nature to those pointed out. The compositions were afterwards collected and inspected by the teacher, who indicated all mistakes left unnoticed by the writer. A short period each week was devoted to the consideration of the errors thus indicated.

The aim of the mere formal side was to attune the ear to good English, to have the child avoid all poor forms of expression without a constant appeal to the rules, and to arouse an interest for the best literature by developing an appreciation for literary masterpieces that can come only to him who has to emulate the works of those

"Whose music is the gladness of the world."

Lillian Darling, Class Teacher, P. S. No. 147.

SIXTH YEAR—FIRST HALF.

The Course of Study for this year, requires short biographies of inventors, statesmen, writers; compositions on current events, and social letters.

Eighty-five per cent. of the pupils are of foreign extraction. The greater number never hear a word of English spoken in their homes. Their knowledge of our language is gained principally in the school-room; consequently, the exercises in composition require much careful thought and preparation on the part of the instructor.

The first object to be gained is an intelligent comprehension and appreciation of the subject under consideration. This I endeavor to obtain in different ways. A boy is asked to read his composition; the class criticises it, and errors not noticed by them are made evident by carefully prepared questions addressed to the brighter boys. So as to hold the attention of the class to the subject matter of the composition, only a few errors at a time are treated in this manner.

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There are always, in every grade, boys who excel. These are requested to read their productions, the class deciding upon their merit as to the best English, the most original presentation, and the highest intellectual effort. The others are then urged to imitate and to surpass the leaders.

At another time, the compositions are circulated among the scholars, who mark one another's work by using a few simple symbols placed under the mistake or in the margin, so that a pupil may be directed to look for the error and correct it according to his understanding.

When writing biographies, the pupils are encouraged to obtain all the information possible, by going to the free circulating libraries. With their knowledge and my assistance, notes are placed upon the board. These embrace the principal events in the life of the hero arranged in the order of time, and guide the pupils in making clear, simple and concise statements. As a stimulus we keep an "Honor Roll" of the boys making the greatest improvement in composition.

Each month the teacher is required to correct a full set of compositions. The errors in these are corrected by writing in the full statement instead of using symbols to indicate mistakes. I consider this the better plan for the pupils of this school, especially when weeks elapse between the writing by the pupils and the correction by the teacher.

The compositions are, as far as possible, correlated with other subjects of the grade, and are illustrated with drawings. My aim is to teach freedom and ease in composition, to awaken in the minds of the boys a love for good literature, and to sow the seed which may in the future tend to the development of a well rounded character.

Agnes M. Walker, Class Teacher, P. S. No. 1.

SIXTH YEAR—FIRST HALF.

In the biography work, it is customary to give out the subject on Friday afternoon. The children are expected to look it up for themselves, using their supplementary readers, library books, and encyclopedias for reference. In the first lesson, a general idea is obtained of the information that has been gathered by the children. Additional facts are supplied by the teacher. After that, the subject matter is arranged, using the topical method. The paragraph headings are placed on the blackboard, and the children fill in the paragraphs for themselves.

In "business forms," the girls are taught to write letters of introduction and application, orders for goods, complaints and inquiries. Other business letters are used in connection with dictation exercises. It has been found expedient to have a model letter read and discussed before any writing is done.

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In social letter writing, the great difficulty is to obtain spontaneity. If a letter written by the teacher is read to the girls, the introduction of the individual element makes their answers less formal. This was done in connection with their "personal ambition" letter. The teacher wrote an intimate, friendly letter, asking the girls to tell her what they intended to do when they were older. The personal chord was touched, and their answers were comparatively original and honest.

We try to correct the compositions in as many different ways as possible, in order to awaken interest. One plan is to have the class develop a topic sentence into a paragraph and have several read, letting the class discuss and criticize. Or again, the work is completed, passed in, and we look over it, indicating the glaring errors, employing a code, which is in use throughout the school.

The work is then returned to the girls, and one composition is written upon the blackboard for the class to correct orally. After that, each girl treats her own essay in the same way.

Another method of correction is to take the work home, look over it, and make a note of the most frequent errors. When it is returned, attention is called to the mistakes, and the girls make their own corrections.

One composition each month receives the careful, personal supervision of the teacher, and all errors are corrected by her.

Our aim is to train the girls to express themselves grammatically, clearly and fluently. The development of the critical spirit in the child is the most important factor. When this is obtained, she has become self-helpful, and the main work of composition is accomplished.

Mathilda Beck, Mary Louise Bishop, Class Teachers, P. S. No. 6.

SIXTH YEAR—SECOND HALF.

The Course of Study as applied to this grade requires: Compositions—on current events; criticism and notice of books; historical studies; letter writing as in previous grades.

METHODS.—All composition subjects are treated orally in the class, the subject matter being discussed as to choice of words, the manner of introduction, the facts for the body of the work, and the form of the conclusion. Subjects are selected and given to the class one or two weeks before writing so that all may have an opportunity to gain facts pertaining to them. If the subject chosen be a picture, it is placed before the class and fully discussed in all its details; as to beauty, the story the artist intended to portray, as well as interesting facts regarding the artist's life; if a poem, similar treatment is given, the class being made perfectly familiar with the author's idea suggested in the lines.

A rough draft is written, then corrected by individual pupils. The teacher inspects the class work asking suggestions when needed. The composition is then copied in ink as final.

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The symbols used in correcting are few and very simple. A dash or line under a word indicates an error of some kind. The child is required to correct the error if able to do so; if not, then the teacher assists

SUBJECTS:

1st week	Letter.	
2nd "	Invitation,	(Informal)
3rd "	Acceptance or Regret,	(Informal)
4th "	Dewey's Reception,	(Current event)
5th "	Soldier's Dream,	(Paraphrasing)
6th "	A Pleasant Walk,	(Personal experience)
7th "	The Acorn's Friend,	(Reproduction)
8th "	My Favorite Season,	(Personal experience)
9th "	Wm. Cullen Bryant,	(Biography)
10th "	The Angelus,	(From picture) (Art and Literature combined)
11th "	Thanksgiving,	(Historical)
12th "	Barbara Frietchie,	(Historical)
13th "	Our Flag,	(Historical)
14th "	Visit to Wanamaker's,	(Personal experience)
15th "	Favorite Authors,	(Notice of Books)
16th "	Charles Dickens,	(Biography)
17th "	Castles in the Air,	(Imaginative)
18th "	Returning a Book,	(Letter form)
19th "	Autobiography of a Pet,	(Imaginative)

Jennie E. Rowe, Class Teacher, P. S. No. 60.

SIXTH YEAR—SECOND HALF.

Point of the Lesson—Composition work consists chiefly in leading the pupils to express their thoughts clearly, concisely, and in the best language, so as to convey the meaning directly without producing ambiguity in the mind of the hearer or reader.

METHOD.—Whenever it is possible, it is judicious to assign the subject a few days before the required time of writing the composition, for the reason, that both preparation and reflection are necessary. No child is able to write upon such topics as current events, criticisms of books and historical studies until she has made herself acquainted with the record of events and the contents of books.

The work must be planned by the teacher, who guides and directs her class in seeking and obtaining the desired information. A general discussion precedes the written work; the class is allowed to decide upon the salient points. This exercise often helps to rectify the wrong ideas which have been formed by the children in the preparation of their work.

Business forms require special attention, mainly, in the correct arrangement of the superscription, the introductions and the complimentary ending. After these preliminary steps have been covered, the content of the letter is dwelt upon. A good plan is to allow the children to write several letters upon the blackboard and have them

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corrected by the class. After the elimination of all useless phraseology the class will readily grasp what is meant by a correct model.

Social letters expressive of the child's inner life require reflection on their part. No discussion is deemed advisable here, because children are great imitators and their letters show a sameness of expression instead of originality, whenever the teacher suggests the subject-matter.

Summary of the Work:

1st. Preparation for Reflection.

2nd. Discussion before the written work (whenever it is deemed necessary).

3rd. Arrangement of topics (whenever the subject matter permits).

4th. First draft of the compositions.

5th. General errors in construction, grammar, and punctuation, noted by the teacher and recorded in a blank book.

6th. Typical errors written upon the blackboard, and corrected by the individual members of the class.

7th. Compositions revised, improved, and re-written in a special blank book.

8th. Compositions are again criticized and corrected by the teacher before the final work is sent to the principal of the school.

The keynote of success in this work which is so difficult for children, is encouragement. They look anxiously for the words "Good" or "Improvement," which sums up the principal's estimate of their progress in this important branch of study.

L. Stork, Class Teacher, P. S. No. 59.

SEVENTH YEAR—FIRST HALF.

In the 7A grade, the course of instruction in composition as outlined for the Boroughs of Manhattan and The Bronx, prescribes short compositions upon subjects suggested by the historical, geographical and literary work of this grade; upon current events, and upon the turning points in the history of nations and individuals. Letter writing, which forms a part of the work of the grade already completed, is continued.

The topics here suggested cover a vast field, and, in the hands of a skillful teacher, much may be done in the way of correlation; thus history, geography, grammar, reading, nature study, may serve as a basis for composition, while the use of capitals, spelling, punctuation, and the proper use of words in sentences may be taught in connection with each essay.

The compositions of this grade may be divided into two classes; those which deal with facts, and those which are mostly concerned with individual opinion and experience. In this latter class, we would include the letters written by the pupils; the former class includes all compositions upon the historical, geographical, and literary work.

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In compositions which deal with facts, it is the teacher's imperative duty to see that these facts are stated unmistakably and sensibly—clearness of idea and statement being the chief essential. In a letter, the teacher's aim should be to teach the pupil to state in an interesting form what he individually thinks and feels. Style is the most valuable characteristic in a personal composition.

As preparatory work in composition, I have had exercises in the uses of "shall and will," in the agreement of the verb with its subject, and others of a similar character; spelling, dictation, the use of words in sentences, and the correction of errors of speech, also constitute a part of this preliminary work. The acquisition of essential facts by the pupils is accomplished by reading and observation.

When the pupil has become sufficiently familiar with a subject to write about it, he is taught to arrange this knowledge under suitable headings; after this, he is led to see and tell the best order in which these topics may be taken, that the proper sequence of facts may be presented.

With this outline or synopsis upon the blackboard, the pupils proceed to put upon paper their thoughts upon the given subject. Great care is necessary upon the part of the teacher, that compositions or letters be not ended too abruptly, as the tendency in this direction is generally very marked. Most of the compositions are corrected by the pupils themselves under my supervision and direction. Several pupils read their compositions, during each lesson. that the others may listen, note the errors, and suggest corrections,

If we would insure good results, English composition must be taught as a habit; one act does not constitute a habit, and one correction will neither remove a bad habit nor establish a good one. Constant vigilance and much advice, suggestion, and correction given again and again are necessary to the training of children in habits of good English.

Amelia A. McCready, Class Teacher P. S. No. 41.

SEVENTH YEAR—SECOND HALF.

The work in composition for the second half of the seventh year is as follows: Short compositions on subjects suggested by the other studies of the grade; brief essays illustrative of the different kinds of composition; social and business correspondence.

I first try to find out how the pupils are able to express themselves on a subject with which they should be familiar; for example, one recently explained to them or a topic of interest. Their efforts reveal their weaknesses, whether in spelling, punctuation, errors of speech, faulty arrangement, introduction of irrelevant matter, paucity of ideas, violation of the rules of composition. Each of these is attacked in turn, particular attention being paid to those that are most general.

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Exercises tending to the correction of the various errors are given; selections are read and analyzed for the purpose of finding the unity of the whole and of the several parts and the pupils are encouraged to read along suggested lines. The subject for composition is assigned, and in order that the proper sequence and unity may be preserved, the data for the various paragraphs are given.

During the second stage of the work the pupils must find their own data, and make their own arrangement, the subject for the composition being assigned. Later on the pupils are at liberty to choose their own subjects. As they become acquainted with the various figures of speech they are encouraged to use them in their composition.

One composition of each pupil is critically examined each month, the errors being suggested by a set of symbols. Again a few are read to the class for general criticism, and the pupils are permitted to criticise one another's compositions. All compositions are rewritten.

Joseph G. Furey, Class Teacher P. S. No. 40.

SEVENTH YEAR—SECOND HALF.

In the first group of subjects for composition, the work of the pupil is largely confined to the clear and correct expression of the subjects of the various studies presented in class. In the second group, the end in view is to encourage originality of thought, the pupil being restricted only as to form and length of treatment. In the third group, the formal parts of a letter having been mastered in the preceding grades, the work is particularly directed to the body of the letter; in social correspondence the aim is to produce a natural and familiar style; in business correspondence, a concise, clear, and courteous style.

The method of teaching consists of a discussion of the subject matter, followed by preliminary exercises leading up to the regular composition of the week. These preliminary exercises occupy from ten to fifteen minutes on three or four days of the week, and take the form of a paragraph in which the subject-matter is confined to the expression of thoughts relating to one topic or division of the subject. These are criticised orally with respect to thought and expression by the teacher and the pupils. After this preparation, an outline containing the titles of the topics of the daily exercises, is made for the regular composition of the week. With this outline as a guide, the pupils begin the regular composition.

As many of the compositions as the alloted time will permit are read aloud by the respective writers and criticized by teacher and by pupils. Pupils are encouraged to make independent criticism and correction and to consult the grammar, dictionary and encyclopedia. Once a month one complete set of compositions receives the careful personal correction and criticism of the class teacher, and this set is re-written by the pupils.

David Birch, Class Teacher, P. S. No. 95.

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Word Study.

INTRODUCTION.

Words are solemn things.—*Oliver Wendell Holmes.*

THE purpose of Word Study may be thus stated: 1. To enrich the pupils' spoken and written language; 2. To train them in correct pronunciation; 3. To help them to write words correctly from memory; 4. To aid them to understand the meaning of words.

The words selected should be confined largely to those occurring in the reading matter of the grade. They should be studied carefully, not only as to their meaning in the context, but also as to their radical and derivative meanings.

The practice that formerly obtained of teaching children, by rote, during a term, the definitions of one hundred or one hundred and fifty words, often led to ridiculous results when the children tried to fit the definitions they remembered to the *wrong* words.

Caroline B. Le Row in her "English As It Is Taught," has shown the result of this method of teaching the definitions of words and I present a few examples taken from her book;

ALIAS—A good man in the Bible.
AMMONIA—Food for the Gods.
ANIMOSITY—A sudden surprise.
BENEFICENCE—A state of insanity.
DEMAGOGUE—A vessel containing beer and other liquids.
REPUBLICAN—A sinner mentioned in the Bible.
PARASITE—A sort of bird.
OBELISK—One of the marks of punctuation.

Appropos of this, I recall the story of the young teacher who taught her class, *in concert*, the definition of noun—"name of any person, place or thing,"—just as it appeared at the beginning of the chapter in Goold Brown—and was horrified to hear her brightest pupil answer a question put by the "examiner," that "organ-grinder is a noun because it is *the name of a person plays a thing!*"

In the upper grades where each pupil is given a dictionary, many teachers still persist in giving lists of words for which pupils' are to find meanings in the dictionary and then form sentences which are heard in the class-room the next day. A teacher who

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pursued this method and had dictated a list of words, after running her eye over the page of the dictionary where the words began with P, was regaled with answers like this the next morning:

Protuberance: (Definition) "Something that protrudes; a knob." (Sentence) "He hurt his head against the protuberance of the door."

Proficiency: (Definition) "The state or quality of being proficient." (Sentence) "His father whipped him because he was proficiency in his lessons."

Preponderance: (Definition) "The state or quality of being preponderant." (Sentence) "He had a preponderance of apples."

And so on. This teacher really wondered what *was* the matter with *those boys*. She felt that *she* certainly was not to blame as she let them make "use of the dictionary," as the course of study demanded.

Word Study.

SECOND YEAR—FIRST HALF.

THE sub-division of this course called "Word Study," includes copying sentences, writing original and dictated sentences, special attention to the correct use of language, exercises to cultivate the power of pronouncing new words with the aid of diacritical markings; the derivation, meaning and use of words, and also very simple synonyms, and antonyms.

The pupils of the First Year after some slight practice in copying easy words and sentences, and in the analysis and synthesis of words by their phonetic elements, are, now, at the beginning of the second year, to give written expression to what has heretofore been mostly oral.

At first, the work is mainly a review of the simple, familiar words containing the long and the short sounds of *a* and *e*, and the writing of copied or dictated sentences formed by the pupils, who, now, for the first time are taught spelling. The capital at the beginning, and the period at the end of the sentence, are insisted upon. An incidental feature of this sentence work is the noting of the number inflections of nouns having regular plurals, and to the corresponding inflections of simple verbs in agreement therewith.

Attention is given to sentences containing familiar words illustrative of the various sounds of *e*, *i*, and *u*; also to the formation of a few irregular plural nouns; and to the proper uses of *is*, *are*, *has* and *have*. After these, come a few simple time inflections of verbs and the names of familiar animals, their young and the characteristic articulate cries.

About the middle of the term, a list of words containing the sounds of *o*, is taken from original sentences; also of words which begin and end with the sounds of *sh* and *ch* respectively, including

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a few simple synonyms, and antonyms. Some of the less familiar uses of the words *in* and *into*, are now taught.

In the latter part of the term the attention is focussed on words containing the third, fourth and fifth sounds of *a*, on words beginning with *wh*, and on the homonyms "*to*" and "*two*" with their uses, illustrating their functions in short phrases and sentences. A few demonstrative adjective and adverb words are taught at this stage.

At the end of the term, the pupils are introduced to the beginnings of the study of sentence forms, by being required to express a thought in more ways than one—as affirmative, negative, interrogative. An elementary insight is also given of the subject of etymology by the modifications of very simple words by supplying various terminal endings thereto. There is also a general review of the work of the term. In all the lessons, pains are taken to correlate these exercises with the nature study, the reading lessons, and the written work of this grade.

METHOD.—As an aid in developing the power to recognize and pronounce new words, the phonogram found in some familiar word is employed.

Errors in the writing of words are indicated by simple code marks. Where several errors have occurred, the pupil is required to rewrite the sentence. Words new to the pupil are written by the teacher on the pupils's paper or on the blackboard. The stress here laid on correct forms of expression is due to the fact that the pupils are in many instances the children of immigrants who cannot speak English.

Anna Marie Laube, Class Teacher, P. S. No. 2.

SECOND YEAR—FIRST HALF.

SCOPE.—Diacritical marks; simple homonyms; classification of words—action words, name words, kind words, how and when words; use of *has* and *have*, *this* and *that*; word building.

GENERAL AIM.—To improve the written and spoken language and to increase the vocabulary.

METHOD.—Oral and blackboard review of previous work. By questioning and further use of the blackboard, the children are led to an understanding of the new work. The written work is then given as a final test of the child's knowledge.

METHOD OF CORRECTION.—The children are led to criticize and correct their work by means of a conventional class exercise.

Jennie W. Lennox, Class Teacher, P. S. No. 53.

SECOND YEAR—SECOND HALF.

The word study in this grade consists in "conversations upon the food, habits, and characteristics of familiar animals and plants,

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oral reproductions of fables, tales, and anecdotes; copying short paragraphs; special attention to the correct use of language, recitation of prose and poetry."

Nearly all the word study in this grade is oral; the pupils are taught to use synonyms, to supply omitted words in sentences; to form the plurals of simple nouns, one tense modification of simple verbs, to construct sentences in affirmative or interrogative forms, and to use simple homonyms in original sentences. The study of the words is correlated with every other lesson; for instance, the children are taught to devise original problems in arithmetic, and the solutions are given in original statements by pupils in turn. The children sometimes give in their own language extracts which have in part been memorized from the substance of poems or prose from the works of standard authors. Particular attention is paid to verbal mistakes in English, each child being expected to correct his or her own errors.

Sometimes a single word reminiscent of a subject taught is put on the black board and the children are asked to tell stories as a test and development of their powers of expression. The various versions given by the little ones form a contribution to the vocabulary of the class.

In conclusion, an exercise is introduced which in some measure throws light on the extent and character of the children's apprecia tive grasp of what they have learned, and on their skill in the written expression of the words newly acquired in the connection therewith.

Ida Louise Hardy, Class Teacher, P. S. No. 6.

SECOND YEAR—SECOND HALF.

Word study in the latter half of the second school year consists of a series of lessons designated to help the pupils to use correct language, and to give him facility in expressing his thoughts in plain and simple English. Exercises are given daily upon the elementary sounds; words selected from the reading lessons are spelled and pronounced, and other familiar words occuring in the nature lessons or other subjects are explained with illustrations of their meanings.

Where the pupils are mainly of foreign parentage, and hear very little English spoken in their homes, an effort is made to improve their language by systematically correcting their faulty expressions. This is done by means of a series of lessons designed to illustrate the proper use of words commonly misused such as *is* and *are*, *has* and *have*. A talk precedes each lesson. The children give original sentences of which a few of the best are selected to be written.

Contractions and abbreviations with their meanings are explained to the children who then give illustrations of their uses.

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Particular attention is then given to plurals, especially those formed irregularly, keeping in view the earlier lessons in the use of the words *is* and *are*, which terms are reviewed incidentally in correlation lessons. When the children are proficient in this direction, they are led to apprehend some homonyms, mostly those encountered in the lessons of the grade. The children being now able to discern by means of the sound elements, the words that sound alike, they are next taught the spelling and the meaning, with examples of the appropriate use of each word in brief phrases or sentences.

Antonyms follow the homonyms. The child will be apt to bring in some of the ideas acquired during the nature lessons which afford special opportunity for the exercise of his faculty of comparison, often resulting in the necessity for the use of antonymous terms. A further step is to dictate an elliptical sentence on some familiar subject, and require the child to supply the missing word.

By means of talks on a few, short, simple poems which the children have memorized, the road is opened for the beginnings of literary study in the elementary schools. Not until such conversations have taken place, can the children appreciate the beauties of the poem and its relation to other subjects. Similarly a few choice quotations are selected from the reading book after the explanation of the passages and the children will, with an intelligent grasp of the content, be able to write them.

When the pupils have been sufficiently drilled on various ways of expressing themselves, as by means of supplying elliptical words, by using the correct word in the right place, by the suitable use of subjects and verbs, homonyms of a more difficult degree are explained with the meaning of each and illustrations of its use in a sentence. Five specimen sentences framed by the pupils are selected and the children write two of these, using homonyms in each sentence.

In order to secure an exhibit of the work of the class as a whole, the children are encouraged to recall words expressing thoughts which the month or season would suggest. The best words found being about snow, the children are allowed to select any three of the words and modify them by adding the suffix "ing".

Each child then constructed two sentences, using some of the words already selected. This exercise is concluded by taking a few quotations and the reading of an appropriate poem.

Margaret A. V. Hoare, Class Teacher, P. S. No. 144.

THIRD YEAR—FIRST HALF.

The course includes, "the meanings and uses of words and important illustrations of their use in phrases and sentences as well as in the recitations of prose and poetry; and in the reproduction of fables, stories and tales."

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The work is mainly oral. Words, phrases and sentences, are selected from all the reading matter, other words of a synonymous character are substituted therefor; phrases and sentences are reproduced in the pupils' own words; some of these sentences are written, the modifications of nouns and verbs as to number are continued; a few tense inflections of verbs are taught and the work of expressing in different grammatical forms is continued.

The correct use of homonyms and synonyms is taught and explained, in sentences oral and written. In illustrating meanings and uses of words recourse is had to the method of word substitution, and the supplying of omitted words. Sentences are written by the pupils, from copy or dictation, the words to be replaced being underlined. In the recitation of prose and poetry, a verse is learned as a memory gem, and certain extracts are paraphrased by the pupils.

This branch of study, is carried on in connection with the language work proper, and to a great extent with all their other studies. In the treatment of each of the subjects of the curriculum, the children are trained to talk, care being taken to amend and enlarge their vocabulary by means of oral corrections, criticisms and suggestions. Written exercises are in some instances given to test the sufficiency of the oral work, and show the results of the instruction upon the pupils individually and collectively.

Elizabeth Mahony, Class Teacher, P. S. No. 6.

THIRD YEAR—FIRST HALF.

A part of the work in this subject consists of lessons on special topics designed as far as possible to meet the needs of the pupils of foreign parentage. For this reason the lessons which are given daily serve to correct foreign expressions, and gradually lead the child to better use of language.

Word Study is a part of the class exercise in English composition, which it invariably precedes. Abundant material by exercises of this kind is obtained from observations and criticisms of the language of the pupils, in connection with the teaching of the various subjects of the grade. Their faulty expressions being then noted, and attention is again called to them, and a written exercise sometimes follows as a test of the efficiency of the instruction.

To make this work more methodical and for the purpose of avoiding needless repetitions, such errors are recorded weekly and those that are glaring or of general occurrence, receive special attention. Homonyms being particularly liable to be misunderstood, require special drills in the first few weeks of the term.

Exercises in supplying omitted words and in forming sentences involving the use of verbs are taken up at a later day.

Possessives, antonyms, words selected from poems and the supplying of appropriate adjectives in phrases or sentences con-

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stitute the drill work toward the middle of the school term. Sometimes a diversion is indulged in, whereby the subject matter of the drill becomes varied, and the mere form of the word affords the basis of a drill: for example—the syllable *ing* is chosen. The pupils are requested to name a number of words ending in *ing*. Sentences are formed, some containing the simple words, others the root word with the suffix. The most available of these words are then written. Any errors occurring in the construction of the sentences are then pointed out, and corrected by the pupils. A verse of poetry for the season and containing a word ending in *ing* is sometimes added and committed to memory. Toward the end of the school term the teacher's plan embraces words containing the letters *gh*, words modified by adding the suffix *ly*; the use of abbreviations, and words that by reason of their comprehensiveness might appropriately form the subject of a composition or a letter.

Stress is laid upon those words that are associated with the ideas developed in the school life. The pupils are encouraged to give spontaneous expression to their thoughts, and to cultivate a freedom of individual expression. The object of the short compositions and letters written in this grade is the establishment of good habits in written work.

Margaret M. McCarthy, Class Teacher, P. S. No. 144.

THIRD YEAR—SECOND HALF.

The work in Word Study for the term in this grade consists of the following: Exercises in the use of homonyms, synonyms, and antonyms; the putting of name words into sentences in the form of statements, and the changing of these statements to questions; the supplying in elliptical sentences of verbs in different tenses and numbers, and nouns in different numbers.

In changing a sentence to the interrogative form, the children are required to make a statement about a certain thing. The statement is placed on the blackboard by the teacher. Then follows criticism by the class. The children are then required to so change the sentence that it will assume the interrogative form, instead of the declarative. In taking up the study of homonyms, synonyms, and antonyms, the words are carefully explained and illustrated in sentences given by the teacher. Then the children are led to supply corresponding words when the teacher has given certain sets of words of the kind taught.

In supplying verbs and nouns in sentences, the sentences are placed on the blackboard by the teacher, with nouns, or verbs, or both, omitted; then the pupils are called upon to supply the necessary word or words.

A drill on phonograms furnishes an interesting exercise. To illustrate the formation and growth of words, a word in its simplest form is given, various elements are gradually added, each change

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in the meaning produced by prefix or suffix or inflection being discussed, and the subtile shades of meaning are drawn out from the consciousness or sub-consciousness of the children. It is possible by the study of words in pairs, such as, arbor and tree, grade and step, cent and penny, journey and day, to introduce the beginnings of a knowledge of the historical development of the English language even at this early period of school life.

Isabella Levy, Class Teacher, P. S. No. 82.

THIRD YEAR—SECOND HALF.

Under the Course of Study, this subject although closely correlated with English composition, is pursued with the object of assisting the pupil in a closer study of the word itself, its formation, its growth, its structure, its special use in the text, its other uses and its generic signification.

In the Third Year, besides the ordinary daily exercises in the oral and written spelling of words that occur in the language lessons, and the drills on the meanings of the terms by using them in original sentences, there is a study of words arranged in groups, as synonyms, antonyms, and words that express action, "How" words, "When" words, descriptive terms, words expressing degree, proper names and adjectives, also abbreviations, and the uses of diacritical markings.

A paragraph is given with elliptic spaces to be filled by the pupil. Exercises are given in the correct form of the past tense of verbs, which owing to their irregularity or to other causes are apt to be erroneously rendered by the children.

Corrections are made orally by the children. In case they are unable to do so, the teacher points out the error.

Mary F. Gleason, Class Teacher, P. S. No. 54.

FOURTH YEAR—FIRST HALF.

In the First Half of the Fourth Year, a poem by a standard author is appreciatively studied and memorized.

The vocabulary of the poem furnishes much of the material for the study of the meanings and uses of words. The words are sometimes treated in groups as homonyms, antonyms, synonyms, etc. Easy suffixes are taught, and derivative words are formed from simple primitives.

Other unfamiliar words used in the various lessons are defined and the children are required to show their comprehension of them by properly using them in sentences. The teacher makes an effort to introduce such new words in the daily work, as to arouse the interest of the children in the direction of wider Word Study, and for the purpose of impressing great moral truths.

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Careful enunciation is in a measure developed with the aid of diacritical marks, and correct English is always insisted upon.

Words similar in sound but different in meaning and synonymous terms are carefully dwelt upon. In teaching a synonym the resemblances of the meanings are first shown; then, the differences, the children illustrating their grasp of the words by using their original sentences.

In developing the definitions of the terms the synthetical method is almost entirely used. The main purpose of this feature of language work is to enlarge and correct the vocabulary of the child.

Stella Schonfeld, Class Teacher, P. S. No. 13.

FOURTH YEAR—FIRST HALF.

In the First Half of the Fourth school year, this subject embraces root words, prefixes, suffixes and derivatives, with their uses and meanings. The use of diacritical marks is combined and emphasized. Promiscuous words selected from the reading lessons constitute the material for the lessons.

Frequent oral drills are given in the substitution of a synonym for some term of a brief statement. Elliptical sentences are put on the blackboard, the blank to be filled with homonyms as a test in the correct spelling. Occasionally a word or two only are shown, and the pupils requested to insert them orally in suitable sentences. Where the homonyms are verbs, a few tense inflections are introduced. This partially prepares the way for the study of root words prefixes and suffixes.

As an exercise in the appropriate uses of words, the scholars are requested to tell in their own language the meaning of some phrases or sentence. One scholar makes an affirmative statement, and another a negative one on the same subject introducing the antonym. To secure thoroughness of enunciation, diacritical marks are introduced and words containing these are subsequently spelled to test the pupils' knowledge of the same. These are a few of the methods employed to produce fluency and a better command of language.

Minnie Schadel, Class Teacher, P. S. No. 22.

FOURTH YEAR—SECOND HALF.

The object of word study being to enlarge the vocabulary and to promote the use of proper English, abundant opportunities for practice in the use of the dictionary, including the use of diacritical markings, are afforded to every child.

When teaching suffixes, a suitable word is selected from the class poem or the prose reading lesson and its textual meaning is explained. Words familiar to the children and having similar endings are then given by the pupils who thus gradually grasp the

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meaning of the ending. As a test a drill follows in the use of such words in brief oral sentences. New words are then frequently given and analyzed by the pupils, the suffixes being sometimes underlined. A similar course is pursued in the teaching of prefixes though the methods are often varied for the purpose of correlation and especially to exemplify and make an abiding impression of some moral truth.

These ends as well as the enlargement of the child's vocabulary are always kept in view. The lessons help toward the proper use of adjectives, and adverbs, before any formal grammar work is taken up.

Much success has been experienced in a plan for stimulating thought in word study by dictating elliptical sentences, the blanks to be filled out by the pupil who is sometimes aided by the use of a list from which he may select the misused term. Special attention is given to words frequently confounded, and to prepositions that are inappropriately employed. In all recitations clear and distinct enunciation is insisted upon, special drill being often given to counteract the influences upon the child of non-English extraction.

Rosina Pyne, Class Teacher, P. S. No. 13.

FIFTH YEAR—FIRST HALF.

The course in Word Study for this half year prescribes the "meaning, use, and spelling of new words." In Public School 19, this course has been resolved into the following elements:

SPELLING.—Selected list, including words used in the various subjects of the grade, and words from a text book. Total, including mis-spelled list, 450 words.

DIACRITICAL MARKS.—Review of the marks and their meanings, exercises in marking, as new work.

PHONIC DRILLS.—Exercises selected from reader.

DERIVATION.—Exercises selected from text-book. Latin roots, 4; English prefixes, review, 10; Latin prefixes, new, 13; suffixes, review, 52.

METHOD OF WORK.—Spelling: The words taught in spelling are used as a basis for the teaching of all the other elements. The spelling list is so selected that all the prefixes, suffixes and roots of the grade are represented. In the teaching of a new word, its prefix, suffix, and root are separated, and their meanings obtained. Upon this work the meaning of this word is built. The teacher then gives sentences, showing the use of the word, and requests the same work from the pupils. Illustrations are then searched for by the pupils in whatever books they may be able to procure. In correlation with this work, the advantage of reading books by good authors is shown. In the formation of sentences due attention is paid to grammatical construction.

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The teacher obtains synonyms and antonyms and these are treated in the same manner as the original word. Homonyms constitute a large part of the mis-spelled list, which also contains those words most commonly found wrong in the compositions of the pupils.

The roots selected are those from which the largest number of English derivatives have been made, and which occur most frequently in the words of the spelling list. After an affix has been taught, pupils are required to form lists of words containing the same, and, when possible, the root also.

PHONIC DRILLS.—As this school is situated in a section of the city where the foreign element largely predominates, especially the German and Italian, a careful drill in phonics is found necessary.

DIACRITICAL MARKS.—Exercises in the use of diacritical marks are taken up in connection with phonic drills, the purpose being to show pupils how to discover for themselves the pronunciation of a word when they use the dictionary in the next grade.

The words are put on the board, divided into syllables, and sounded. The corresponding marks are then placed. Following this work comes an exercise in marking words in sentences. Special attention is devoted to words which occur in the sentences, and which contain difficulties of pronunciation, or sounds peculiarly difficult to foreigners. Occasionally an exercise is given in the sounding and marking of the phonograms of frequent occurrence in words of the spelling list.

METHOD OF CORRECTION.—Exercises are written in black ink. Corrections by the pupil are marked in pencil. Corrections by the teacher are made in red ink.

Olive M. Jones, Class Teacher, P. S. No. 19.

FIFTH YEAR—SECOND HALF.

The course in Word Study includes the meaning and use and spelling of new words. It has been analyzed into the following parts:

SPELLING.—List of words selected from various subjects of the grade and from a text book. Total including a list of words misspelled, 570.

DIACRITICAL MARKS.—Review of marks taught in the lower grades. Exercise in marking and use of the dictionary, as new work.

PHONIC DRILL.—Exercises selected from reader.

DERIVATION.—Exercises selected from text-book. Latin roots, 8; English prefixes, review, 23; Latin prefixes, new, 15; suffixes, review, 52.

METHOD.—SPELLING.—The words taught form the basis for the other parts of the work. In case a word has a prefix, suffix or root,

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the meaning of the word is shown by the meanings of the different parts. Teacher and pupils then form sentences to show the many meanings of the word. Pupils are encouraged to improvise sentences illustrating the uses of the word. Attention is given to the grammatical construction of such impromptu sentences. In this connection the teacher endeavors to cultivate in the pupils a taste for the works of good authors.

The spelling list includes words which illustrate the prefixes, suffixes and roots. Synonyms and antonyms of the words are now taken and treated in a like manner. The mis-spelled list consists of words which have been incorrectly spelled in the composition work, and also the most familiar homonyms.

When a prefix, suffix or root has been taught, words containing it are orally recalled by the pupils.

DIACRITICAL MARKS.—These are taught and reviewed in order to make the child familiar with them as they will be a great help in finding the pronunciation of new words and in the use of the dictionary. To insure the correct knowledge of these processes, practice is given by marking words in sentences. These sentences are placed on the board, the words are pronounced slowly and distinctly to bring out the individual sounds, and the marks which denote these sounds are put in place. Occasional exercises in phonograms are given.

PHONIC DRILL.—Where the pupils of the school are, to a large extent, foreigners, they mispronounce letters and words, and render it advisable to have these drills.

CORRECTION.—The pupils write their exercises in black ink, and make their corrections in lead pencil. Corrections by the teacher are make in red ink.

Rose M. Matthews, Class Teacher, P. S. No. 19.

SIXTH YEAR—FIRST HALF.

The plan as shown in the pupils' work comprises twenty typical lessons, indicative of the work done in twenty weeks. The first lesson shows the spelling and syllabication of words; this method is applied to all the new words taught, and is carried through the term's work. Analysis and use of words are commenced. Sentences are placed upon the blackboard containing blank spaces, which the pupils fill with the word suited to the meaning. The children then go on a hunting expedition, each child for himself. The aim of this is to stimulate self-activity in the child, awaken interest, and add to his vocabulary; these selections are brought in by the children and tabulated under the heading—"Author's use of Words."

In the second and third weeks, parts of speech are recognized from the meaning and form of the words, and sentences are recon-

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structed by the substitution of one part of speech for another to express the same thought.

Vowels are reviewed, and rules in spelling governing the word under discussion are taught. About the fourth week, the first step toward teaching precision of language is taken. Shades of meaning are recognized. Sentences are placed upon the blackboard, and several words are selected, any one of which might fill the blank space. The children choose the word best calculated to express the precise meaning and place it correctly in the sentence.

The study of roots and derivatives begins about the fifth week; Anglo-Saxon roots or primitive words are at first used. Prefixes and suffixes are taught in regular gradation and progress through the term. Latin roots in simplest form with derivatives follow in their order, and the number is increased as the pupils advance. Words are analyzed, the root discovered, and new words formed from it by the pupils.

The building of new words by means of prefixes and suffixes, leads to a study of the parts of speech—nouns become adjectives; adjectives, nouns; and verbs take new meanings in regard to time, etc. Thus the lessons proceed until the study and use of words develop a knowledge of English which forms the basis of correct language in the expression of thought.

The use of synonyms is not neglected and the dictionary is in constant demand, the pupils making a study of it with every lesson.

NOTE.—In the beginning of the term, corrections are made by the teacher, using symbols similar to those employed in correcting proof; later the children correct errors in class under the supervision of the teacher.

Mary M. Lilly, Class Teacher, P. S. No. 37.

SIXTH YEAR—FIRST HALF.

The course in Word Study for the sixth year, first half, prescribes the "meaning, use and spelling of new words." This course has been resolved into the following elements:

SPELLING. Selected list, including words used in the various subjects of the grade, and words from a text book on spelling, including Misspelled List, is 450 words.

DIACRITICAL MARKS. Review of the previous grades and exercises, in using the dictionary.

PHONIC DRILLS. Exercises selected from Fourth Reader.

DERIVATION. Exercises selected from text book. Roots, 14 Latin. Prefixes, 30 Latin, new. Prefixes, 10 English, review. Suffixes, 5 Adjective, new. Suffixes, 52, review.

METHOD OF WORK. The words spelled in the class furnish the material for the other work in Word Study. Derivation, for exam

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ple, is shown by annexing prefixes and suffixes to the simple forms of English words occurring in the reading lesson.

The knowledge of diacritical marks which the child has received in the former grades, is now turned to practical account by the larger use of the dictionary. The child is taught to find the word and its meanings, using his knowledge of diacritical marking to help in pronunciation and accentuation. The lessons in phonetics are given in connection with diacritical marks.

Some of the words, selected from oral and reading lessons, are grouped into homonyms, antonyms and synonyms. The child is taught to resolve his doubts by referring to his dictionary.

In using a new word in sentences, he is encouraged at first, to notice the way in which it is used by some good author, either in the class readers or the library books. He is allowed to peruse the extract so noted as a sentence and then he gives an original sentence involving the use of the same term. The reading of good English gives him new food for thought besides increasing his vocabulary, which in many cases is very limited, owing to his home surroundings.

Errors are shown to the pupil by red ink marking, as follows: A misspelled word is underlined ; a caret indicates that a word has been omitted ; a slanting line is drawn through the letter, if the capital has been omitted. Errors in meaning are shown by a line under all the words involved in the statement. Sometimes the corrections are made in pencil by the pupils. The work is then written correctly, showing that the child understands his errors and has improved his grammar.

Kate E. Ryan, Class Teacher, P. S. No. 19.

SIXTH YEAR—SECOND HALF.

Select from reading lessons words commonly used colloquially or in writing ; give simple definitions; vary the words so selected by use of different prefixes and suffixes showing meaning and use of such. Select from words so chosen a number for illustrative use in sentences.

In choice of words prefer those whose roots admit of numerous derivatives. Illustrate in sentences. Call attention to homonyms when the spelling lesson presents the opportunity. In this connection emphasize the fact that a change of accent may change the part of speech—also that in derivative words the part of speech is usually determined by the suffix.

Use of synonyms and antonyms.—The dictionary aids in this work when searching for definitions. In teaching pupils to use the dictionary call attention to the diacritical marks and abbreviations therein employed.

Select geographical names that suggest some interesting fact,

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derivation being referred to. From Elementary Science (geology), choose words because of their derivation and history.

In review require examples of words introducing the same prefix or suffix; of words showing variations of the same prefix or suffix; of words in which the prefix in one word is similar to the suffix in another; of words illustrating the different meanings of the same prefix or suffix.

Endeavor to illustrate in proverbs, quotations, or poems words whose use has already been taught.

Rose Ralbe, Class Teacher P. S. No. 103.

SIXTH YEAR—SECOND HALF.

The course of Word Study for the sixth year, second half, requires the use of a dictionary and text-books for the spelling, syllabication, pronunciation, derivation, and the meanings and uses of words. Besides the text-books, the material for this work is taken from sentences and paragraphs containing items of interest, such as current events, historical, geographical, and other scientific data, as well as gleanings from critical supplementary reading of standard poetry and prose.

METHOD.

1.—MEANING AND USE.—Words are selected from all subjects taught in the grade, and are classified as parts of speech to be in part correlated with the day's lesson in grammar; a group of verbs is taken and the words are then employed in such manner as to illustrate their modification.

2.—DERIVATIVES.—Instruction is given in the meaning of prefixes and suffixes, the study of Latin and Greek stems, Anglo-Saxon words, and the familiar French words or phrases, together with the literal and current signification.

3.—CONTRAST AND INFLECTION.—Similar and dissimilar points are brought out in synonyms, homonyms, paronyms, in order by such comparisons to guide to a judicious choice of a term to fit the sense and give the clearest expression to the thought.

Under this head, elegance and refinement of diction are illustrated by figures of speech and rhetorical passages, as contrasted with a bare, uncouth statement of the same idea; also the relative merits of a strong, terse style, and one that is imaginative and florid.

Under inflection, a series of lessons is elaborated, in which words assume new meanings, as evident—evidence, minúte—minute, hero—heroine, die, dies, dice.

CORRECTION OF ERRORS.—When in the judgment of the teacher the lessons of the week have had sufficient study, a written test is sometimes given comprehending the main points. Corrections are made and ellipses supplied by the pupils themselves. Each pupil

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in turn reads her entire paper without interruption. Other pupils are then invited to criticise the production.

The teacher indicates errors by a code of diacritical marks, leaving the pupils to discover their individual deficiencies from the general corrections made in the class. Glaring mistakes are rectified by patient insistance upon good form until repetition establishes familiarity with what is right and best.

In presenting all subject matter, the child's previously acquired knowledge is used as a basis for advance work. By question and review, the child's activity is stimulated so that he becomes receptive—ready to grasp and assimilate the new ideas as far as possible by his own resources.

Outlines of topics on the blackboard are used to assist the memory, pictures and anecdotes are employed to excite curiosity and promote the association of ideas.

The aim of these lessons on Word Study is to give the children a greater fluency of speech by increasing their vocabulary, to broaden their intelligence, to cultivate a taste for pure, correct English, and to lead them to appreciate language as the vehicle of thought, their character and success in life being largely dependent upon their ability to interpret themselves to the world.

Florence S. Tremper, Class Teacher, P. S. No. 5.

SEVENTH YEAR—FIRST HALF.

The work in Word Study in this grade is largely correlated with the other subjects taught. In geography and history, the origin of the names of places is explained etymologically. During the term, a masterpiece of English poetry is memorized by the pupils and appreciatively studied. As far as possible, the materials for Word Study are gathered from the text.

A stated number of prefixes and suffixes are used by the teachers in the previous grades, where easy English primitives are also built into derivatives. This work becomes more extended in the seventh year. In order that the vocabulary of the pupil may be enlarged, the appropriate uses of such words are made an essential in these lessons.

In the elaboration of the definition of a term, several methods are pursued for thought development. Sometimes separate words are selected for the purpose of recalling their synonymous terms, or their homonyms. Special stress is placed upon those which bear upon the faults in speech prevalent in this neighborhood, where the children are of foreign parentage, or else the meanings of words and phrases are taught from the context. Illustrations of these definitions are accepted either in sentences showing original thought, or in quotations from standard authors. Incorrect enunciation is carefully criticised and elliptical sentences are not accepted.

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The origin and successive uses of a word are given when it will stimulate interest in historic research or point a moral and strengthen the sentiments of patriotism, truth, honesty and other virtues. Original work is encouraged at every step, and the dictionary, the use of which is constantly insisted upon, is in the hands of every child.

Every lesson is carefully developed upon the principles "from the known to the unknown," and "the thought before the expression."

S. Agnes Smith, Class Teacher, P. S. No. 5.

SEVENTH YEAR—SECOND HALF.

Under the head of Reading the Course of Study prescribes, among other things, for the Second Half of the Seventh Year, "the meaning and use and spelling of new words; the choice of words, and discrimination of synonyms.

The object steadily kept in view is the enrichment of the pupil's vocabulary, while at the same time, the proper use of the dictionary is required, and an effort is made to create a liking for the study of words by giving the history of some of those in common use.

Words with whose use the pupils are familiar are carefully analyzed to trace the connection between the etymological meanings, and their various other acceptations. The pupils are required to construct original sentences containing the words discussed, and at the same time they are encouraged to search for them in the newspapers and the books they read, to make copies of the sentences containing the words, and to tell the sense in which such terms are used. Homonyms, antonyms, and synonyms are handled in the same way.

At times a list including some of the selected words previously taught, is written on the blackboard. Sentences are then dictated, from which one or more of those words are omitted, and the pupils are required to supply the same.

This work is supplemented by a brief written test weekly, in analyzing a few of the words. The work being criticised in class by the pupils and the teacher. Towards the end of the term, the history of words in general use is made the subject of a composition.

Joseph G. Furey, Class Teacher, P. S. No. 40.

SEVENTH YEAR—SECOND HALF.

In Word Study in the Seventh Year, Second Half, the aim is not only to obtain a large and rich vocabulary, but so to teach the spelling, orthoepy, and meanings of new words, that the pupils may be better able, both in spoken and written language, to put the right word in the right place. By means of drills on the uses of synonyms, efforts are made to lead the pupil to see that there is a choice of

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words to be made, and that the word which most clearly conveys the thought is the one to be selected.

The results attempted are: First. A knowledge of the value of the dictionary as a factor in education, enabling the pupils to interpret new words, and thus to have a clear understanding of the thought intended to be conveyed. Second. Greater facility in choosing the words which express most accurately the pupil's own thought. Third. The ability to make use of the phraseology of the definitions in giving expression to knowledge of history, geography, literature. Fourth. A more ready comprehension in reading the advanced literature of the grade. Fifth. A strengthening of the love for classical literature, because of the greater ease with which the scholars are led to understanding the thoughts of the best authors.

One method of teaching a lesson is as follows:

(*a*) A paragraph from a story is dictated to the pupils, new words being spelled for them but not defined: this gives practice in writing English readily, and assists pupils to infer the meaning of each new word, by means of its association with the ideas of the text.

(*b*) During study-hour, the pupils, under the teacher's guidance, find the syllabication, orthoepy, and various meanings of each new word, its primitive and derivative forms, as well as its synonyms and antonyms, using for the purpose the unabridged dictionary. This part of the lesson is correlated with grammar, by determining what part of speech the word and each of its derived forms may be.

(*c*) After due study, the pupils are required to give, individually, the pronounciation of the new words.

(*d*) A conversation follows on the subject of the lesson, that questions may be asked the teacher about the special use of any words not yet clearly understood by the pupils. The teacher is careful to call attention to the different shades of meaning between the given words and their synonyms.

(*e*) Words are then written by the pupils, and their meanings explained and their uses illustrated by sentences, generally oral.

(*f*) The sentences which the pupils have written are read aloud; criticism by the pupils is invited. At this point, care is taken to lead the pupils to discriminate between the sentences that are incorrect or weak, and those that best illustrate the word given.

(*g*) All misspelled words are underlined, and these as well as other mistakes are then corrected by the pupils.

Kate Miller, Class Teacher, P. S. No. 41.

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Nature Study.

INTRODUCTION.

"IT must be remembered that the primary object of nature study is not that the children may get a knowledge of plants and animals. The first purpose of the work is to interest them in nature. This must be done before other desirable results can be obtained. The second purpose is to train and develop the children; *i. e.*, to train them to observe, compare, and express (see, reason, and tell); to cause them to form the habit of investigating carefully and of making clear, truthful statements, and to develop in them a taste for original investigation. The third purpose is the acquisition of knowledge. This, however, must be "gained by actual experience," and it must be "knowledge classified," or science.

For the attainment of these objects, interest, power, knowledge, *the children must study the plant;* no book should be used by them. The effort of the teacher should be so to interest and guide them, that they will learn how to work profitably.

The children should study the plant as a whole, not merely a part, as seeds, leaves, flowers; it is a mistake to limit the work to one part to the exclusion of the others, and it is as great a mistake to allow the children to study the parts without leading them to see the mutual relations and dependence of the parts.

The plant should be studied in its relations to its environment—light, air, water, soil, climate and other plants—and in its relations to the lower animals and to man. For the time being the plant is the centre of the world. The study furnishes many opportunities for coördinating science work with the other studies of the school, and at the same time for showing man's use of plants and his dependence on them.

As young children cannot generalize, it seems wise to limit the work during the first two years to the study of the germination, development, growth, and structure of three or four typical plants, like the bean, pea, and sunflower, studying, of course, only those features that are easily understood. Gradually more details may be studied, and other kinds of plants, flowering and flowerless, examined, causing the pupils' ideas to be more and more complete and generalized.

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Whatever is being studied, the questions to be answered are: What? Why? How?

First: What does it do, and what is it?

Second: Why does it do so, and why is it so?

Third: How does it do so, and how did it become so?

At first little can be done but answer the question "what"; gradually "what" includes so many particulars that an answer to "why" becomes possible; before the end of the course, "how" can and should be answered.

[From Report of the Conference on the Study of Natural History.]

Nature Study.

FIRST YEAR—FIRST HALF.

I.—COURSE OF STUDY.—Animals: Common domestic animals and birds. Recognize and name. Observe characteristics, features, habits, actions and other interesting facts. Anecdotes, fables, songs, and games relating to animals. Plants: Flowers, fruits, vegetables, recognize and name. Observe form, color, qualities and uses.

II.—AIM.—The aim of nature study is to inspire in the child a love for nature, a habit of observation concerning the world about him, and to bring him into contact with certain objects in the plant and animal world.

III.—METHOD.—In this grade, the greater part of the nature study must necessarily be oral. If the object itself is not obtainable, pictures of it are shown, and in a free talk, each child tells his own experience or observations. Later, the characteristic facts which it is desired to impress about the subject studied are drawn from the children by apt questioning. Anecdotes are read to the children and appropriate songs and recitations are memorized by them.

Reading lessons are developed from the nature study and some of the simple sentences are copied by the children. The manual training is based upon the Nature Study, and indeed, the Nature Study is carried into all the lines of work, as far as it is possible.

IV.—OUTLINE.—The following is a condensed outline of the nature study for each month.

September.—The farm yard and its occupants: The hen, turkey, duck, horse, cow, etc. Golden-rod, aster, autumn fruits, apples, grapes, plums.

October.—Distribution of seeds, milkweeds. Familiar birds, migration. Leaves, recognition of most common ones. Turning. Falling. Acorns studied with oak leaves. Caterpillars. Collect cocoons.

November.—The squirrel. Nuts of various kinds. Grain, oats, wheat, corn, rye; growth, reaping, preparation for use. Harvest,

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vegetables, fruits. The Indian, his home, habits, relation to us in history. The Pilgrims and their place in our history; by use of sand table, a few facts in geography are taught. Thanksgiving; some of the things for which we are thankful.

December.—The cat. The evergreens. Sky, sun, length of days; weather; moon, stars; snow. Christmas, love to the world; the races.

January.—New Year and what it brings. The dog. The rabbit, the aquarium, fishes. Development of a frog. The Eskimo and his land. Reindeer. Seal.

V.—RESULTS.—As every child is always interested in nature, this is one of the favorite studies of the course and its influence on the child in developing love for and kindness to the dumb world which surrounds him is invaluable.

Marian S. Purdie, Class Teacher, P. S. No. 10.

FIRST YEAR—SECOND HALF.

COURSE OF STUDY.—Animals: Common domestic animals and birds as in first term; characteristic parts, as fur, feet, ears, teeth; homes; care of young; relations to man. Lessons on kindness to animals.

Plants: Whole plant and essential parts. Observe growth from seed. Continue study as in first term. Parts of fruit.

Natural phenomena: The sun, day, night. Wind, rain, snow.

Note: Fables, anecdotes and poems relating to nature.

I.—AIM.—Nature work serves a two-fold purpose. Not only is the child taught to observe, to compare, to discriminate, but in his young heart is developed, that love for the beautiful, that appreciation of the handiwork of God, which will sweeten and broaden life, and lead to the formation of higher and nobler ideals.

When the child has reached the second half of the first year, he has formed an intimate acquaintance with the general appearance of a few common plants and animals. He is now ready to make a study of these in detail. If in the previous grade the proper interest has been aroused in the plant world, at this stage of the development, the child will be ready with innumerable questions, concerning the growth, the appearance and the uses of plants.

II.—SCOPE.—In the early fall, the visible signs of autumn were dealt with, viz.: the falling leaves, the ripening of fruits and grains, the changes in the weather and the characteristic flowers of the season. After this general introduction, the attention was turned to particular fruits. The apple, a fruit familiar to every child was the subject of an interesting lesson. The story of its life, from the blossom to the fruit, filled the children with enthusiasm, and made them anxious to know, if all fruits grow the same way.

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The class was now prepared to take up nuts as a particular subject. Their varieties, special uses, etc., were pointed out and dwelt upon. This naturally was followed by a lesson on seeds.

The period of the year was now reached when a study of the bare tree is of advantage. The attention having been directed to a particular tree, interest in a common attraction, awakened unobservant eyes to a considerable extent, and a little ingenuity in the treatment of the subject, clothed bare facts in most interesting garments.

The migration of birds forms a fitting introduction to this branch of the nature work. Where it was possible, the bird was brought into the class room, and observations were made there and then. The hen, the duck, the goose and the turkey received due attention.

III.—METHOD.—In all the work, there has been a constant endeavor, first, to familiarize the child with the objects of nature nearest at hand, and second, to train the child, in habits of comparison and discrimination.

As the cold weather advanced, and the possibility of obtaining specimens grew less and less, the nature work now consisted in a study of the common domestic animals. Although several of these had done service as the subject of lessons in the first half of the first year, still the interest in them only grew as we studied more minutely the characteristic parts, and as we endeavored to understand the relations of these parts to the whole life of the animal. Considerable information, concerning animals, was gained by the children from the readers. By means of these lessons the less familiar animals were introduced. After some interest in them was aroused, it was possible, by the aid of charts and pictures, to develop a series of good lessons.

As the work progressed, the most important statements received from the children were placed upon the blackboard, and used as reading lessons. The work would be incomplete, were it not copied by the child. The writing was done upon unruled paper.

It was intended to have the number of objects attracting the child's attention reduced to a minimum. Concentrated attention and not scattered energies were aimed at. The thought of the lesson is of the greatest importance, and the reading and writing is but secondary. To require the child to exert every effort on the correct writing of the word and to ask him to strain every nerve in the formation of the letters, is to rob the lesson of its vivacity, defeat the purpose of its work, and reduce to dry formality a lesson once teeming with life and enthusiasm. During the writing of the lesson, the teacher walks through the aisles, noticing and correcting errors. Characteristic mistakes form the subject of special lessons.

Josephine Knakal, Class Teacher, P. S. No. 30.

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FIRST YEAR—SECOND HALF.

The chief aim of nature lessons in the first year in school is to help the children to observe things created in the beautiful world around them, and to become familiar with the habits and characteristics of well known plants and animals.

The nature lessons are very largely language lessons too, and they furnish the subject matter for very many reading lessons. The morning talks are most frequently about things observed in the world around.

As far as possible all subjects are taken up in the appropriate season; in the fall the children gather leaves, ripe nuts, watch the squirrel gathering his winter stores, notice the empty nests in the bare trees and learn of the migration of birds. In the winter we have frost, snow, ice, and the evergreen trees. Spring and summer bring the bursting buds, return of the birds, planting of seeds, the plants and flowers.

All children before entering school know something of plants, trees, common animals, clouds, rain, etc. In school they are led to tell what they know and have seen, and are then by the aid of objects, pictures or drawings, led to new thoughts, and to observe new characteristics.

In the study of plants the whole plant itself or the important part to be studied, can be presented to the children, and when possible this is always done. With animals it is not so convenient, but good pictures, and when possible stuffed specimens serve the purpose here.

The natural phenomena with which we have to deal are all around us; the sun, moon, stars, rain, clouds, etc., and the children are stimulated to take notice of conditions and phenomena as they occur.

After the ideas have been developed by a study of the object itself, stories relating to the subject are read, and songs and poems are memorized, as

How the Leaves Come Down; The Squirrels' Arithmetic; Thanksgiving Day; The Snowflakes; Alice's Supper.

Mary A. Knox, Class Teacher, P. S. No. 68.

SECOND YEAR—FIRST HALF.

The aim of nature work is to train the senses, form good mental habits, familiarize the child with objects about him, and create a desire for more knowledge, while habits of observation, comparison, and discrimination are developed.

The subjects treated during the term were the horse, cow, sheep, goat, cat, dog, squirrel, chicken, and turkey. In the fall, different kinds of seed and their disposition were made the subjects of several lessons. Among others, the aster, goldenrod, oak, chestnut, and

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fir tree were taken up. Time was also given to the subject of grains. As to the natural phenomena, the sun, clouds, rain, snow, and ice, were studied.

By the time the children have reached the first half of the second year, they are prepared to continue more in detail the work of the previous grades. They are eager for information concerning the life of the animal and of the plant. With a little guidance, one will find the children capable of gathering information at first hand. In the animal world, the possession of pets and personal experiences in the country contribute abundant material for a series of lessons. The beautifully illustrated charts and numerous stories to be found in the children's books add interest and enthusiasm to the work.

The location of the school near the Park increases the possibility of obtaining specimens for plant lessons. These have a particular charm, when gathered by the children, and give evidence of the enthusiasm aroused in the pupils. Unbounded interest in the germination may be incited by allowing the children to plant seeds and watch the development from day to day. In all cases it has been possible to have specimens, models, or charts, and blackboard illustrations for vivifying details.

The inductive method was pursued: and frequently the devolopment proceeded by comparison. Although dealing with individual plants, it has been an endeavor to present the subjects in such a way that the fundamental principles of all plant growth may be understood.

The method of introduction varied with the subject. Sometimes a story, sometimes a few questions, again, a simple statement of the object of the lesson served to awaken the necessary attention. At different periods in the lesson, the statements obtained from the children were placed upon the board and formed a reading lesson. Later, this was copied with double ruled paper.

The nature and language work were strongly correlated; with each lesson there was often either a choice quotation or an appropriate story for the week. Our nature work furnished material for a large number of reading and writing lessons, and naturally afforded excellent drill in language work. Corrections were made on the spur of the moment, while pupils were copying the sentences from the board.

As for drawings, the specimens or blackboard sketches were used as models. Spacing was regulated by the use of inch splints.

Philippina Daum, Class Teacher, P. S. No. 30.

SECOND YEAR—FIRST HALF.

I.—COURSE IN NATURE STUDY.—Animals: Common domestic animals and birds as in previous grade, and insects. Observe

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covering, parts of body, kinds of food, nests, adaptation to mode of life, use to man. Plants: Common, wild and cultivated flowers, trees, grass and grains. Recognize and name. Observe bursting of buds, germination of seeds, place and manner of growth. Parts of the plant, uses of parts. Natural Phenomena: Continue work of first grade. Water: rain, snow, ice, fog, clouds; sky, rainbow. Observe changes in weather.

Note: Fables, anecdotes and poems relating to nature.

II.—AIM.—The aim of Nature Study is to cultivate observation, imagination and language, and to arouse interest in the beauties of the world.

III.—MATERIAL.—To attain this end, animals are studied from pictures and blackboard illustrations principally, as but few living specimens can be presented in school; plants, from living specimens with which we have been abundantly supplied; and natural phenomena from the weather principally.

IV.—METHOD.—After careful observation, children express the ideas gained during the lesson, and some of the best statements are written on the blackboard by the teacher and copied by the children.

Selections from Hiawatha have been read to the children and they have memorized, written and illustrated certain parts.

Lillie F. Thorne, Class Teacher, P. S. No. 75.

SECOND YEAR—SECOND HALF.

I.—COURSE IN NATURE STUDY.—Animals: Relations of domestic animals to wild animals; as cat, tiger; dog, wolf. Comparison of animals and distinguishing parts. Care of animals. Plants; continue to study the common, wild and cultivated flowers, trees, grass and grains. Observe bursting of buds, germination of seeds, place and manner of growth. Parts of plant, uses of parts. Dependence of plants upon soil, and moisture. Cultivation of plants. Collect and compare leaves. Study beauty of form, color, texture. Natural Phenomena: Observe changes in temperature. Changes of seasons. Effect of weather upon plants and animals. Earth Study: Rocks; stones, gravel, sand, clay, loam. Action of water on streets and soil.

II.—AIM.—In all of our teaching in Nature our aim has been to develop in the children a love and sympathetic interest in that subject. We encourage them to observe the common things, which are daily seen about them and to generalize from their observations Quotations by standard authors are given, and the children thus memorize some beautiful thought in connection with the subject.

III.—METHOD.—In September some plants and all kinds of seeds can easily be found therefore we commenced with that part of the Course of Study. A careful study of fruits and seed vessels was made. Agents that help the plant in dispersing its

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seeds were spoken of. Seeds that have wings and seeds that are provided with silky or feathery tufts of hairs, adapting them for wind dispersal were mentioned.

Germination of seeds; place and manner of growth, dependence of plants upon soil, sun, and moisture were carefully observed.

Children collected and compared leaves. They especially delighted in noticing the color and texture. The parts, venation, shape, margins, arrangement of leaves on stem, also uses of leaves were studied.

As the farmers had just finished harvesting their crops, we studied grains. In studying wheat and corn, the myth about Ceres and Proserpina was read and reproduced. After having taken up several of the cereals, the pumpkin was talked about. "The Pumpkin" by Whittier was memorized and written. The sweet gum, dogwood, maple and pine trees were observed and drawn.

Records of the weather were kept. Changes in temperature and seasons were observed.

The children read about and collected pictures of the winter haunts of animals and also noticed what effect the weather had upon animals and plants and how they adapted themselves to changes in climate.

The relation of domestic animals to wild animals such as cat, tiger; dog, wolf, etc., was studied. We made a comparison of the distinguishing parts of animals and the children were taught to care for and be kind to animals.

The action of water upon the streets and soil was spoken of. Specimens of stones and rocks, which had been worn away by the action of water, were shown. Rocks, stones, gravel, sand, clay and loam were collected and examined.

Elise M. Feuring, Class Teacher, P. S. 10.

SECOND YEAR—SECOND HALF.

The study of Nature gives to the child an added power of observation, judgment and imagination. If taught with a good heart and in the right spirit the children will be imbued with the desire to further their knowledge in this direction.

I take for subject matter lessons which cover the requirements of the grade. I do not altogether confine my work to just these, for often the children may bring specimens which deserve consideration.

In presenting a lesson questions are given in regard to the knowledge the children may possess of the subject. Finding out just the facts they know, I ask how they know that these things are so. This induces a train of thought. Their ideas, as to the reason of certain facts being so, are often quite accurate. They critically observe, weigh, and reason. I now add new facts. By this time they are full of interest. They become surprised that

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they knew so much of the subject yet not all. Often they are aroused to such zeal that I am obliged to keep on the alert to supply food for thought. This spirited study becomes very fascinating. My class and I are so enthused that we press forward for added information.

These lessons are mainly conversational. After gathering a number of facts the children give concise expressions, which are placed upon the blackboard. They read and copy these. If the subject is some object of Nature, brought to the room, the children make a drawing of it. They also illustrate any part of the object under consideration. The result is a group of illustrated facts. The children love to think that by providing material, they are instrumental in suggesting a lesson. They furnish specimens cheerfully. This also keeps the lessons seasonable.

The lessons are correlated with reading, number and indeed all the day's work. This seems to the little ones like a very amusing and instructive game. They will enter into the spirit of the method to such an extent that they themselves will suggest how I may use the subject in an appropriate manner. For example, one day the lesson was on the squirrel. We used the squirrel all through the day's work. It was used as a means of discipline also. We often deduce our lessons in morals from our subject. Thus the squirrel taught us to be quick, to have sharp, watchful eyes and to be provident. In giving out some work one child failed to hear at the first time. Another child said "We forgot to put in our game, sharp ears, too. The squirrel is quick to hear so we must be quick that way too." It takes away from the laborious part of the work to watch with what zeal they enter into the game of not being caught in any way lacking in these qualities.

Sometimes the subject laid down in the grade schedule is not obtainable as an object. Then I make use of an illustration. This gives training to the imagination not only in regard to the exact appearance of the object, but also the surroundings it has. The children will form pictures in their minds and so color their outlook.

Things assume a livelier interest after a time spent on this subject. Objects are not merely animals, trees, rivers, etc., but they give pleasure in regard to their beauty and usefulness. The child's mind begins to grasp the idea of ownership of all those things. He is a child and part of Nature, is surrounded by her, is dependent upon her for life, strength, food. Nature Study has a refining influence also.

Jennie L. Ross, Class Teacher, P. S. No. 5.

THIRD YEAR—FIRST HALF.

ANIMALS.—Study animals with a view to classification; as animals that eat flesh, that gnaw, that eat grass. Birds; as perchers,

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swimmers, birds of prey, etc. Observe development of animals; as moth from caterpillar; frog from tadpole. Relation to climate, as in migration of birds. Kindness to animals.

NATURAL PHENOMENA.—Continue work of previous grade. Cardinal points. Observe sunrise and sunset, length of days; length and direction of shadows. Direction of winds to storms, development of storms.

EARTH STUDY.—Continuation of work of second grade. Earth surface; plains, slopes, hills; drainage; surface water; rivers, ponds, lakes, shores and banks.

The purpose of the nature lessons in general is:—

First—To familiarize the children with all things beautiful in Nature and to inspire in them a love for every living creature, however small. Second—To train the children to observe closely and to cultivate their power of language by reporting what they have seen.

The course of lessons on animals was given with a view to classification; as animals that eat grass, that gnaw, that eat flesh, thick-skinned animals, insects, fishes and such birds as swimmers, perchers, climbers and waders.

The children were encouraged to observe and discover for themselves, the habits and characteristics of such members of each family as were familiar to them. The environment of the same, together with the adaptation of their parts to their lives and habits, were also considered.

The concept of the animals under discussion was gained from the study of living animals by visits to the Zoological Garden, and Parks of the City; also from mounted specimens, pictures and blackboard illustrations.

By a series of questions, the children were encouraged to talk freely and intelligently. The oral expression of thought was frequently accompanied by a written one with illustrations, for the purpose of further testing their powers of observation and the knowledge gained thereby.

In the study of insect life, the subjects handled were from the living and dead specimens. The development of frogs from tadpoles was studied from the living animals, kept in an aquarium in the class-room. The indoor observations of the different classes of birds was made from mounted birds and from dried specimens of birds' feet.

The characteristics of the gnawing animals were ascertained from a stuffed squirrel; and those of the thick-skinned from a small artificial elephant. The elephant was really a mechanical toy. It was so accurate in every detail and served its purpose so well, that I deemed it advisable to use it in connection with the thick-skinned animals.

Stories and fables were read to the children and many poems were learned by them in connection with this work.

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Lessons in natural phenomena were introduced by actual observation; as the relation of winds to storms, length and direction of shadows; also the various forms of vapor as rain, hail, snow, sleet and ice.

As far as possible subjects were studied according to season. The work was correlated with reading, language, number, literature and drawing.

Grace Wiley, Class Teacher, P. S. No. 68.

THIRD YEAR—FIRST HALF.

In the beginning of the third year of school life, we aim to lead the child mind to comprehend more of the causes and effects of the things about it—the weather, the sunrise, sunset, length of days, shadows and their direction, wind, storms, etc. The theory put forth is illustrated by simple experiments.

Then individual animals are taken as types of particular classes; their adaptation to climate and season is considered; the development of animal life as, frog from tadpole, moths from cocoon is studied. Specimens are easily procured and development can be observed in the class room, talked over freely, illustrated and made the subject of compositions.

Stories, poems, fables, pictures, original drawings and compositions are taken up in correlation with the entire work covered.

The result sought by this study is first, to cultivate the sense of observation, to note the classification of objects, later to find reasons for these classifications, to think connectedly and logically, with clearness and accuracy, and lastly to create such a love of nature that will lead to further study without the aid of the teacher.

Hildegarde Rabing, Class Teacher, P. S. No. 135.

THIRD YEAR—SECOND HALF.

COURSE IN NATURE STUDY.—Plants: Methods and conditions of planting and harvesting. Relation of plants to climate. Vegetables, fruit, grain, in relation to the seasons, uses and values. Recognize trees by fruits and leaves. Parts of flower. Collection and mounting of specimens. Natural Phenomena: Continue observations each month as in previous grade. Keep weather records. Study effects of heat and cold on water, and on plants, animals, and man. Adaptation to climate. Earth Study: Continuation of work of previous grade. Cultivation of soil, relation to plants. Relation of surface to plant growth. Study of topography and rocks of New York. The earth as a globe; land masses, natural divisions of land; natural divisions of water.

GENERAL OUTLINE OF LESSONS.—September.—Golden rods, asters, turning leaves. October.—Recognize leaves of trees. Special

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fruits, their distribution. Distribution of fruits in general. November.—Trees, preparation for winter. Change in weather, cold. Effect of cold on plants. Effect of cold on animals, man. Thanksgiving. December.—Land and water divisions. Study terarium, to notice effect of cold on small land animals. Holly, mistletoe. January.—Cocoons (made by caterpillar as protection against cold). Evergreens. Birds' nests (left by birds driven South by cold). Ice, snow. (Effect of cold on water).

The aim of Nature Study is to bring children in touch with nature, and so broaden their sympathies and outlook; to teach them to observe carefully; to express what they see; to draw conclusions from their observations.

Nature Study proper is the observing and telling. As soon as it is written it becomes composition, dictation, etc., but this follows the aim of the Course of Study which is to make studies correlate as far as practicable.

The three divisions of Nature Study are obviously related as, "Methods and conditions of planting and harvesting," naturally involves "Cultivation of soil, relation to plants," and "Adaptation to climate."

The rocks of New York studied are specimens brought in by the children. They learn to recognize granite, gneiss, mica, limestone and sandstone (using acid test to distinguish the two latter).

From talks about Manhattan Island and the lakes in Central Park the idea of islands and lakes in general is developed; other divisions are taught by comparison with these.

In connection with Nature Study selections, from standard authors, are read and quotations memorized.

In all lessons when possible specimens were used. In case of evergreens each child had a twig. Evergreens were the subject of oral lessons during the week. The composition was first written on brown paper, corrected and rewritten on white paper.

Method of Correction.—While children were writing, the teacher walked around helping and correcting individually. When the compositions were finished several were read aloud by the children, others in class correcting orally, and also correcting similar errors on their own papers. The papers were collected and the teacher corrected one quarter of them. When the compositions were rewritten the teacher again corrected individually, so that all of the papers were corrected, either by the children themselves or by the teacher.

Marianna Shutes, Class Teacher, P. S. No. 10.

THIRD YEAR—SECOND HALF.

The purpose of nature study is to train the child mind to observe closely and accurately and to arouse the spirit of investigation.

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To gain insight into nature, children should be taught to look beneath the surface, to uncover facts, to detect the working forces or hidden laws.

A very simple method of study is to note the development in the sprouting of seeds, as beans, peas, etc., observing the daily progress of the same; the bursting of the seed, the putting out of roots, the opening of the leaves, etc.

These facts are further impressed on the child mind by the drawing of the plant in its different stages of development, by writing of what they have observed, or by the reading or memorizing of extracts, poems or stories in correlation.

The development of trees and their fruits is taken up in a similar manner. The action of the climate, changes of seasons, rain, sunshine, wind, snow, frost upon fruits and grains are noted.

With the change of seasons, the effect on animal life is also to be observed; the flight of birds, winter stores, fur coverings, winter homes, relations of animals to climate, their adaptability for procuring their own food, etc.

In earth study attention is directed to rocks, the formation of land, slopes, river banks, etc., the preparing of the soil, decaying of leaves, forming of loam, etc.

The result obtained by this training of observation of things in nature and their relation in everyday life is the awakening of a desire for more knowledge, the creating of that love of nature and that keen insight into its laws which is the foundation of all knowledge.

Amanda Warts, Class Teacher, P. S. No. 135.

FOURTH YEAR- FIRST HALF.

The prescribed Course of Study is the following: (*a*) A brief resumé of the study of the sun as pursued in the previous grade. (*b*) The sun in relation to climate. (*c*) Its action on water and air. (*d*) Its effect on human life, animals and plants. (*e*) Zones of heat and cold. (*f*) Seasons. (*g*) Water—changes of form—rain and snow. (*h*) Action of water on surface. (*i*) Action of the ocean on coasts. (*j*) Common rocks and minerals. (*k*) Common metals—uses and values.

METHODS.

The study of Natural Phenomena necessitates close and accurate observation on the part of the child. The teacher must pursue logical and inductive methods. The following are some of the methods which I pursue in this work—(*a*) By the observation of Nature, on the part of the pupils while out of doors. (*b*) Experiments in the class-room. (*c*) The study of live specimens in the school room. (*d*) Visits to parks and museums to study the animals and plants of the various zones. (*e*) Collections of mineral

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specimens are made by the children. (*f*) Drawings of the various stages in Natural Phenomena are executed by the pupils. In this way, their experience in Manual Training is utilized. (*g*) By the study of pictures and good illustrations. (*h*) By oral and written accounts of the objects and phenomena studied, thus correlating language.

General Remarks.

The Elementary Science in this grade is of such a character that it is practically almost inseparable from Geography. This study, from its ethical side, includes and interweaves the World History of this grade, which includes Classic Myths relating to earth, sun, water, air and fire. The child loves to read these and we thus lead him on to a taste for literature.

Not too much stress can be laid upon the importance of the study of pictures. Through what source do we obtain our most vivid ideas of the Arctic regions, its seas and climate, from written words or from pictures? We think of the cold as we recall pictures of frozen seas, Eskimos, etc.

Results.

The child becomes interested in his surroundings, he studies the sun above, the air about him, the stones in the roadside, and the nearby water—all contain a new meaning for him. He acquires enthusiasm; his imagination is quickened; he obtains well ordered knowledge; he forms definite habits of investigation, of recording facts, and good power of expression. While studying the climate changes, the distribution of plant and animal life, he naturally makes comparisons and soon realizes the advantages which he possesses in living in the Temperate Zone, above all, in being a resident of the United States, that noble "Land of the Free."

Helen E. Donlon, Class Teacher, P. S. No. 156.

FOURTH YEAR—SECOND HALF.

Course of Study.—Plants in relation to soil and agriculture. Cultivation of plants for food—vegetables, fruits. Fruit trees, fruit shrubs, fruit vines. Distribution of plant life on earth. Areas of cultivation. Areas of staple products. Wild and cultivated flowers of New York and vicinity.

The teacher selects such plant forms as she may find convenient and appropriate to the season of the year. Therefore it is wise to divide the botany course into separate plans; a spring and fall plan. Each month offers material. Every child should be provided with a specimen.

In September, the plant may be discussed; the parts, the functions of the parts and the use of plants to the world. During this month, owing to its variety of fruit, we may study the different

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classes; fleshy, stone and dry. It is well to make a collection of seeds, as they too, are now ripe. The fields offer specimens of milkweed, thistles, corn, wild aster and the beautiful goldenrod, our national flower.

These, with their correlated literature are full of interest. Notice also the gorgeous coloring of the leaves; let the children collect and mount specimens and study their shapes.

In October we notice the fall of the leaf, the scattering of the seeds and the agents by which these seeds are scattered; what has become of them and how they differ. A special study of nuts and fleshy fruits may be given, keeping in mind the fact that the food value of these seed houses is the attraction which nature holds out to man and animals, in order to have seeds cared for and distributed. Autumn is the store house into which all other seasons bring their treasures. Therefore consider the fruits which are now ripe on our trees, shrubs and vines.

November. In preparation of the day's lesson the children come provided with roots. In our talk, we consider the kinds of roots, how they grow and their functions. The observation lesson is followed by a drawing lesson upon the subject studied. Each child is required to reproduce with his pencil or brush just what he sees. Talks on tea, wheat, cotton, and cork furnish excellent material for composition. In November we study the essential parts of plants, the uses and functions of the root, stem, leaf, flower, fruit and seed. We teach the children that plants are divided according to the duration of their lives into three classes, viz. herbs, shrubs and trees. The children become acquainted with the different trees; they observe their general forms, which depend largely on the branching; examples, the willow, the poplar, the larch etc. Notice the bark and the leaves which the children have pressed and mounted. We owe our health to trees; they fertilize the land, moderate the climate, give shade in summer and at all times make beautiful the landscape. The end of November brings Thanksgiving and pumpkin pie. The gourd family is now talked over, and the golden pumpkin suggests Whittier's beautiful poem, which may be correlated at the same time with history.

December. Winter is the time to study the buds and all the life which is wrapped up, and asleep under the covering of each tiny leaf-bud. While nature is seemingly asleep we may study what the sap is doing in the meantime. In the sap there is a sugar, starch, medicine, gum, color and perfume; we also talk about the circulation of sap.

This may be followed by a lesson on the sugar cane, which may be reproduced by the class, in the form of a composition. The children's attention is called to the beauty of nature in winter; the winter aspect of common trees, and the sleep and death of the plants.

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The week before Christmas may be devoted to the study of the evergreen family, particularly the fir tree with its pleasant associations. Geography may be correlated in connection with the distribution of plant life on the earth, and the areas of production etc.

The following list suggests poems to be read or committed to memory in connection with this study: The Corn Song, Song of Harvest, The Huskers, Snow Bound and The Pumpkin, all by Whittier, America's nature poet.

The lessons of the botany course are of an oral nature with blackboard outlines, which the children copy in their note books. These notes serve as material for home work, also as a guidance for their compositions, which are corrected and criticised by the teacher.

Once a week a dictation is given on the subject for that week. The children punctuate as they write; after the completion of the lesson the dictation is placed on the blackboard, attention is called to the spelling, pauses and other important points, and the children make their own corrections. The lesson is then erased from the blackboard and the class rewrites it as a final copy.

Johanna F. Vogel, Class Teacher, P. S. No. 30.

FOURTH YEAR—SECOND HALF.

METHOD.—Of the five divisions of the Course of Study in Science, it would seem that wild flowers should receive the first attention, as they are to be procured only early in the school term. Four weeks were devoted to this particular branch. Pupils were requested to bring some specimens, until the fields and waysides had been robbed of every variety.

In each lesson, the names of the plants in question, family, root, stem, leaves, flower, fruit, where found, the time of blooming, etc., were discussed. Many of the flowers were pressed and mounted by the pupils. These lessons afforded opportunities for review of what had been taught in previous grades, concerning plants. Short quotations referring to the wild flowers, or flowers in general, were memorized.

After the most available wild flowers had disappeared, the "cultivated flowers" in bloom at the time, were studied for two weeks, following the same method as that pursued with wild flowers.

Some of the simple, cultivated flowers were selected for plant analysis; having dissected a flower, the various parts were pressed, mounted and labelled and their functions taught.

Whenever convenient, the scholars were given individual specimens. Many took them home, planted them, and in some cases,

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after sufficient time had elapsed, brought the growing plants to school.

As the Thanksgiving season approached, the pupils' attention was directed to the "Cultivation of plants for food," and "Plants in relation to soil and agriculture." The grasses claimed first attention; and were followed by other food plants, in the order of their importance: the climate, soil, planting, care, and harvesting, and the various processes through which they pass, before being ready for use, received consideration.

The "Distribution of plant life on the earth," is shown by means of diagrams, illustrating the earth, its divisions into zones, the continents, and the plant life peculiar to each, the areas of cultivations and of staple products.

The last two weeks are devoted to a review of the term's work, as illustrated.

RESULT—From the interest and enthusiasm manifested in this work by the class, it is evident that they have realized to a great extent, the meaning of the words,

"Of all things beautiful and bright,
In this rich world of ours,
God gives us naught for our delight,
More lovely than the flowers."

Eliza M. Hatch, Class Teacher, P. S. No. 101.

FIFTH YEAR—FIRST HALF.

I.—AIM—It is Spencer I believe, who says that the best equipment for one's career in life is to be a good animal. In sympathy with the above expressed sentiment, the result we have striven to obtain in our work in physiology has been, to leave firmly rooted in the minds of the children the idea that the human body is a most wonderful piece of Divine mechanism, over which we are given the control; that there are certain inflexible laws of health, for the violation of which we are called to account and compelled, sooner or later, to pay the penalty by personal suffering.

Many are the arguments which might be cited in favor of the possession and the retention of a sound body, and what that usually develops a sound mental and moral nature. Not only are the chances of our success in life increased a hundred fold by good health, but, freedom from bodily pain greatly enhances our opportunities for happiness and that of our friends, by our cheerfulness and optimistic views of life. It is an old saw which lays by the door of the dyspeptic, the blame for most of the grumbling, discontent and pessimism of the world.

Thus as our grade work calls for instruction in reference to the bony and muscular system of the body, circulation, digestion and the evil effects of alcohol and tobacco on the system, special

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attention has been given to general hygiene in connection with these branches, rather than to a very detailed study of human biology.

Keeping in mind that, "good health is one of the safeguards not only against suffering but against crime" we strive to hold up the standard under which so many of the best educators of the day have taken their stand—that of the equal development of body, mind and soul.

II.—METHOD.—The text-book at our disposal, "Our Wonderful Body" is used by the children as a supplementary reader. The lessons are given orally by the teacher. Reviews are held at the end of each, in which children are called upon to answer, orally or in writing, questions framed to test their intelligent understanding and comprehension of what has been taught. Of the four or five regular compositions required monthly, one is written upon that topic in physiology, then under consideration.

The work is correlated as much as possible with drawing, for considering the matter from a psychological standpoint, both experience and the wisest of our pedagogues tells us, of the greatest depth and permanency of impressions reaching the mind through the medium of more than one sense. In the case of correlation with drawing, the senses of both hearing and sight and also the muscular sense are active.

Whenever possible, simple experimental work at home is required of the children, such as burning bones to show composition and structure, examination of the movements of muscles in the legs of poultry, the study of the eyes of pigs, fish or any others that can be easily procured.

III.—OUTLINE OF GRADE WORK.—The Bony System. 1. Bones—their principal uses; adaptation for such uses; shapes; structure; composition; size; joints; ligaments. 2. Need of correct position at all times; proper food and sleep—their necessity for growth.

THE MUSCULAR SYSTEM.—1.—Muscles—kinds, shapes, structure; expansion and contraction; modes of fastening to bones; tendons. 2. Normal and abnormal development; exercise—how and when to be taken; difference between exercise and over exertion.

DIGESTION.—1.—The digestive tract; functions of each part; fluids of digestion; special organs of digestion—their structure, size, shape, position, method of working. 2. Foods—classification, kinds; preparation of; regularity of meals; temperance in diet; slow eating; thorough mastication; Indigestion—what it is, causes, cures; effect of tobacco on saliva, hence on digestion; time of exercise in relation to digestion.

CIRCULATION.—1.—The blood—its composition; purification—how latter is accomplished; organs used in circulation; their

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position, shape, size, structure. 2. Ventilation—exercise in the open air; hygienic clothing—unrestricted, weight from shoulders; improper or sluggish circulation; cause and effect.

ALCOHOL AND NARCOTICS.—1.—Alcohol—how obtained from grain, etc., fermentation; effect of alcohol on the principal organs of the body—as a stimulant and after effect; diseased craving. 2. Tobacco—effect on nerves, heart and digestion; stunted growth; the uncleanliness of the tobacco habit—road to consumption.

Josephine M. Chudoba, Class Teacher, P. S. No. 154.

FIFTH YEAR—SECOND HALF.

COURSE OF STUDY: Distribution of animal life on the globe. Typical animals of land and sea. Adaptation of the animal to his environment; food, enemies, mode of life, habits. Classification of quadrupeds, of birds. Articulates, Fishes, Radiates, Reptiles, Mollusks.

In following the Course of Study, the teacher began with the simplest of "Life's Children," and by tracing the development of the single-celled animal through its various changes, reached the higher animals.

The classification of the animal kingdom was made as the class proceeded. In teaching amoeba, hydra, and sponge, the very simple construction being shown to the pupils, these animals were grouped as protozoa, first life. The radiates, showing resemblance in arrangement of organs, were taken as the second group. The mollusks were then studied, and lastly, the articulates. This completed the work in the sub-kingdom, invertebrates.

The vertebrates were studied in the following order: reptiles, fishes, birds, and mammals. In the study of mammals, the bat, whale, and elephant were selected to show that the home and mode of locomotion do not determine the order of animals.

AIM.—The teacher's aim has been not to teach scientific facts, but rather, to teach how to acquire them through habits of close observation. By endeavoring to present the subject in an enthusiastic manner, she has hoped to inspire in the children a desire to study Nature, an appreciation of the beautiful world in which we live, and chiefly, a love for the Creator, who watches over the least of His creatures so tenderly.

METHOD.—The method pursued has been to trace carefully the changes which animals undergo, and to lead from the lower class to the next higher, endeavoring not to leave any gaps between the groups. The work has been apperceptive so far as possible, exercising first, the senses, next, the conceptive faculty, and the reasoning faculty, last.

Whenever available, the living animal has been studied. An aquarium, containing goldfish, sunfish, silverfish, tadpoles, and

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snails, was kept in the class-room. The work in fishes, quadrupeds, and birds, was further supplemented by visits to the City Aquarium, Zoological Gardens, and Aviaries. In lessons on mullusks and articulates, living animals and shells were examined in class. In the reptile lesson, only lizards and turtles could be procured. In all the work, pictures, diagrams, and miniature animals, made of papier maché were studied.

The children have been required to illustrate the majority of the lesson by drawings, both as a help to the study of animals and as a test of the pupils' powers of observation. The animal study has also been correlated with the work in Geography, in Composition, and in Literature. Poems on animals, by famous authors, have been read, and many have been memorized.

By changing the manner of reproducing lessons, the element of variety has been introduced into the work. Some lessons have taken the form of composition, some are drawings illustrating the life of an animal, others are systematized reports of class lessons. In the lesson on the distribution of animals, a map of altitudes has been given. The genealogical tree has been used to show connection of different animal forms. In the lesson on the elephant, the question and answer form of recitation was employed.

The lives of the great naturalists have been constantly referred to, in order that the children might gain an idea of the amount of time and labor spent on scientific investigations. Effort has been made to help them to realize and appreciate the fact that they are living in an age which has been enlightened by the work of great thinkers.

Mary Walseman, Class Teacher, P. S. No. 68.

FIFTH YEAR—SECOND HALF.

Course of Study and Analysis.—To carry out the spirit of the course of study, the pupils are encouraged to talk about and illustrate the distribution of animal life on the globe, with reference to the zone or belt of climate best adapted to the life of each particular species. The pupils do this by drawings representing the zones with the animal life thereon, or by pictures of animals mounted upon the globe in the latitudes to which they belong.

The adaptation of the animal to his environment is impressed upon the minds of the pupils by stories and illustrations, and by a careful study of climatic requirements. The classification of quadrupeds and birds, including a brief history of animals now extinct, forms an interesting and practical branch of the course of study.

Materials and Means.—Throughout the study of Zoology, the teacher and pupils use all available means for personal research. Books with attractive illustrations are liberally provided by the School Board; charts of natural history and pictures culled from

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various sources are freely used, and the stuffed birds from the school collection take the place of the living specimens.

METHOD.—It is the invariable practice to tell the children nothing which they can observe for themselves, and to this end, they visit the Museum of Natural History, or the Public Aquarium, under the guidance of the teacher. Small, well-stocked aquaria are kept in the school by means of which the pupils may watch the development of animal life from stage to stage.

RESULTS.—It is believed that the intelligent study of this subject will serve to awaken powers of observation, to attune the ear to the song of the bird, to rob familiar animal life of its terrors, to bring man into closer fellowship with all animate nature, and at the same time to lay the foundation for a deeper and more comprehensive study of the works of God's creation.

Isabelle M. Monroe, Class Teacher P. S. No. 50.

SIXTH YEAR—FIRST HALF.

I.—SCOPE.—The subject of physiology for the sixth year is in part a review of what has been done the two previous terms; the bony, muscular and digestive systems, and circulation, to which has been added the respiratory system and the skin, also the study of the effect of alcohol and narcotics upon the system, and a practical knowledge of the laws of health.

As an introduction to the work the children were recommended to read "The Man Wonderful in The House Beautiful."

We began with a study of the body as a whole, comparing it to a house, a steam engine and a factory, where the organs are the machines that do the work. This was followed by a study of the structure and functions of the various organs in their natural relations and a classification of the same into systems, viz:—a bony frame-work or skeleton, a muscular system or motor apparatus, attached to the frame, the brain and nervous system, a directing apparatus, the skin, a general envelope, serving also the purpose of drainage, the digestive and assimilative organs, an apparatus to prepare and supply new material, the blood-vessels, a circulatory apparatus to carry away old material and to distribute new; the respiratory system, an aerating apparatus to purify, warm, and enliven the circulating fluid.

II.—METHOD. The subject was studied objectively as far as possible. Practical experiments were performed by the teacher and pupils. For illustrations, we used the human skull, the manikin charts, diagrams and blackboard exercises. The attention of the pupils was called to their own bodies in illustrating the joints, the pulse, the veins, arteries and respiration. Use was made of the lungs and wind-pipe of the sheep, the heart and part of the great tubes leading to and from it, portions of the limbs, showing the

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relation of muscles, tendons, ligaments and joints. Pupils were trained to make and to copy sketches and diagrams in their note-books.

The plan was to announce each subject one week in advance. This aroused much interest, the dullest pupils often contributing facts and specimens. A lesson was taken up in the form of a conversation. The facts developed were summarised and reviewed from a topical outline placed on the blackboard. This lesson was then written up at home by each child. At the next lesson, the compositions were read and corrections made by the class. All were then neatly copied in note-books and illustrated by appropriate sketches. Further drill was had by correlating such subjects as reading, spelling, composition, drawing and manual work in practical experiments.

III.—Result.—Thus the pupils were taught to search for and prove for themselves the great truths of nature. Such a study of any natural science cannot help but broaden their minds and make them close and accurate observers. It trains them as well in the ability to express themselves or state what they have discovered.

Rachel Pitcairn, Class Teacher, P. S. No. 41.

SIXTH YEAR—FIRST HALF.

Course of Study.—Physiology and Hygiene; Review of previous grade; Respiratory System; The Skin: Alcohol and Narcotics.

The Ultimate Aim of the Study.—1. To raise the child's moral standard in order that he may become a more nearly perfect moral being. 2. To prevent the use of stimulants by teaching the effect upon the human system. 3. To give the child a correct and scientific knowledge of the subject. 4. To make a lasting impression; this to be done by means of object lesson and allegory. 5. To have the child become so conversant with the subject that it will tend to better the hygienic conditions of home.

The Immediate Aim of the Study.—To develop interest in and to give knowledge of the subjects of the grade.

Methods Employed.—The subject was presented as an allegory comparing the human body to a house. Charts, black-board drawings, pictures, experiments, readings, and other aids were made use of whenever appropriate.

Emily Newton, Class Teacher, P. S. No. 78.

SIXTH YEAR—SECOND HALF.

The course of study includes physical geography and nature study covering common minerals and broad topics in geology.

My plan has been to correlate physical geography, geology and mineralogy as three branches of the one subject Earth-study. The

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work presented has aimed at a sequence in this correlated work. We started with the statement of our aim in taking up this Earth-study; namely, to discover how the earth was prepared to become the home of man.

The children's attention was first drawn to the familiar object, the common pebble. In the observation lessons, each child held a specimen of a mineral, which, in order to discover various facts in regard to it, was carefully observed, under the guidance of the teacher. This called into play the child's self-activity, aroused deep interest, and compelled her to apply old knowledge to gain new. When all the facts were noted, they were sorted and arranged and the child wrote out the result of her observations.

New knowledge on the subject was now presented by the teacher, after which a fuller description of the mineral was given by the child. This formed the second lesson.

In the third lesson, the child was called upon to recapitulate, gathering the many points into a topical lesson, arranged in order of the tests applied. This series of three lessons on one subject formed a type, guiding the child by apperception in the study of other minerals.

When the common minerals, peculiar to this locality, had become familiar, the study of the rocks which they form was next taken up. This was followed by the field lessons to teach the stratification of rocks and the dipping, folding, wrinkling, out-cropping and faults of the strata. These were illustrated by diagrams. Next came the subject of the agents of disturbance and alteration in the earth's crust, as volcanoes and glaciers, erosion and weathering.

The results of these changes were next considered under such topics as new, middle-aged and old lands, plateaus, mountain ranges, river basins, valleys, divides, watersheds, drainage, plains high and low, alluvial and coastal, and coast outlines.

Soil was next studied as having resulted from the decay of rocks from various causes. The study of limestone then introduced the beginning of life in the world as seen in fossils; and the study of caves led to the consideration of the life of primitive man. Building stones with the part they have played in the civilization of man, and metals, which take highest rank in usefulness and value to civilized man, were next presented.

The term's work closed with the further field study of the geological features of the school locality, and with visits to the Museum of Natural History, for the study of particular minerals and of relics.

In the subjects taught, the ideas of beauty and grandeur, as well as usefulness, have been dwelt upon and supplemented with appropriate thoughts from literature.

Mary R. Young, Class Teacher, P. S. No. 68.

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SEVENTH YEAR—FIRST HALF.

The work to be done in the first half of the seventh year in the study of physiology and hygiene includes the following:

I. OUTLINE—Digestion. Stomach Digestion; Intestinal Digestion; Effects of Alcohol; Tobacco and Narcotics; Hygiene of Digestion. Circulation and Respiration. Movement of the Blood; Breathing; Alcohol and Tobacco in the Lungs; Hygiene of Respiration. The Nervous System. Distribution of Nerves; Nerve Matter; Nerve Centers. Nervous Action. Work of Nervous System; Carrying Messages; General Work of Centers; Work of Special Senses. Use and Abuse of the Nerves. Hygiene of the Nerves. Special Senses. Touch; Taste; Smell; Hearing; Seeing. Effects of Alcohol and Tobacco. Hygiene of Special Senses.

II. METHOD.—In presenting this subject each lesson began with a preliminary talk about the subject to be taken up. Then charts, both plain and sectional, blackboard drawings by the teacher and the pupils, and in some cases the object itself, were employed to interest and to make clear to the pupils' minds the parts of the subject that were of most importance and that were necessary to be remembered.

The pupils were encouraged to consult books of reference on the subject, to bring in specimens, clippings from periodicals and pictures pertaining to the subject at hand. Collateral reading was also taken up to give a broader and more useful knowledge of the subject.

The pupils' attention was constantly drawn to their own bodies to make practical the knowledge derived from the lesson.

Drills in the way of outlines and compositions were taken to fix the important points in the pupils' minds.

III. AIM.—The results aimed at a knowledge of the important organs in the human body, the work that each one has to do, and how each individual can by following certain rules help these organs to do their work properly and thus preserve health. And by the stress laid upon the dangers arising from the use of alcohol, tobacco and narcotics, a timely safeguard is established in the children's minds, which will protect them against the pernicious effects of evil example and of evil habits.

Joanna Stafford, Class Teacher, P. S. No. 53.

SEVENTH YEAR—FIRST HALF.

The work in Elementary Science comprises a review of digestion, which includes, necessarily, descriptions of the organs of digestion, the special work of each, the process of absorption, and a talk for the purpose of deciding which are the most nutritious foods. A review of circulation, which requires a study of the blood, heart, arteries, veins and capillaries; the course pursued

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by this vital fluid in complete circulation, and the health of the organs.

The advance work is begun by teaching the process of respiration; this leads to the important topic of ventilation. Then the step which naturally follows is the study of the marvelous guide of all the physical machinery, that which maintains harmony throughout our organism—the nervous system; for this work, careful attention is given to the brain, spinal cord, and nerves. We proceed to the consideration of the five senses; instruction on the organ of sense is, of course, included. The detrimental effect of alcohol and narcotics upon the human system is explained and illustrated by charts. Every lesson is introduced by question, illustration, or rapid review, the object being to avoid abruptness and to arouse the interest and attention of the children.

By proceeding from the known to the unknown, the facts are, so far as is practicable, developed, and so, by apperception, fixed in the pupil's realm of thought. The instruction is both synthetic and analytic.

The lessons are illustrated by blackboard sketches, which the pupils are led to copy, so that drawing is correlated with physiology, and sometimes facts in botany are recalled. Whenever possible, actual objects are used in the class room; for instance, an animal's heart is used in the lesson on the human heart.

As these are oral lessons, the pupils are led to converse as much as possible after explanations have been made, for perspicuity of expression follows clearness of thought, and thus the tutor is enabled to ascertain one result of the instruction.

After the new matter has been taught, a rapid drill follows, in order to impress the latest acquired knowledge upon the pupil's mind, and to arrange it in proper form.

The purposes of the instruction in physiology are, to cultivate esteem for the wonderful perfection shown by nature in the construction of the various parts of the human body, to impart to the child knowledge which will enable him to care properly for the organs, to preserve health, to increase his power for usefulness in the world, and to prolong life itself; also to cultivate memory, thought, language, judgment, and reasoning.

Each written exercise represents a review, and is arranged systematically, the topics having been written upon the blackboard. A course in physiology and hygiene is also pursued as supplementary reading.

Frances J. Cronan, Class Teacher, P. S. No. 93.

SEVENTH YEAR—SECOND HALF.

The course of study in Physics as laid down in the Manual comprises the following divisions: 1. Matter, 2. Forces, 3. Gravity,

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4. Simple Machines, 5. Heat, 6. Sound, 7. Light. The Manual prescribes a minimum of thirty minutes per week to be devoted to this subject, but in the discretion of the Principal a longer time may be given. In the following analysis it is assumed that sixty minutes may be given per week.

As there are abouttwenty weeks in a term, the study of Physics for this grade may be outlined as follows: Matter (1). Division of (Mass, Molecule, Atom), Properties (General, Specific), Fundamental Units. (2). Conditions (Solid, Liquid, Gas), Changes—Physical, Chemical, Crystalline, Amorphous. Forces (3). Molecular attraction, Capillary attraction, Cohesion; Adhesion; Motion; Momentum. (4). Newton's First Law, Newton's Second Law, Composition of Forces, Newton's Third Law. (5). Mechanics of Liquids, Transmission of Pressure, Pascal's Law, Hydraulic Pressure. (6). Mechanics of Gases, Atmospheric Pressure (Air-Pump), The Barometer, Pumps—Lift, Force. The Siphon. Gravity (7). Weight, Mass, Density, Center of Gravity, Line of Direction, Equilibrim, The Pendulum. (8). Principle of Archimedes, Specific Gravity (Solids, Liquids, Gases), Methods of determining by Balance. Hydrometer, etc. Simple Machines (9). The Lever, Weight, Power, Fulcrum, Three Classes, Relation between P. and W., Applications. (10). The Pulley, Fixed, Movable, Single, Multiple, Relation between P. and W., Applications. The Wheel and Axle, Relation between P. and W., Applications. (11). The Inclined Plane, Relation between P. and W., Applications. The Screw, Relation between P. and W., Applications. The Wedge, Relation between P. and W., Applications. Heat (12). Sources, Effects, The Thermometer (Fah., Cent., Ream.) Conversion of one scale to another. (13). Transmission, Conduction, Conviction, Radiation, Evaporation, Ebullition. (14). Distillation, Latent Heat, Specific Heat, The Steam Engine. Sound (15). Production, Transmission, Range of audibility, Velocity in different Media, Reflection; Echoes. (16). Intensity—law of, Pitch—conditions of, Resonance Interference. (17). Musical Tones and Instruments, The Scale, Relations of Tones of Scales, Nodes; Ventral Segments, Overtones (Harmonies). Light (18). Sources, Propagation, Shadows, Intensity—law of. (19). Reflection—law of, Diffusion, Absorption, Mirrors (Plane, Concave, Convex), Images (Real, Virtual), Multiple, Reflection. (20). Refraction—law of, Total Reflection, Prisms—The Spectrum, Lenses—Optical Instruments.

The aim of the course is to interest the pupil in physical science, to create and foster scientific habits of thought, and to stimulate a desire for scientific knowledge.

The course, as outlined above, is carried on, as far as possible, inductively by experiment, blackboard illustrations, problems, and questions. A text-book is used by the pupil only for reference.

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The experiments leading to the establishment and enunciation of important truths are performed by the teacher before the class. The pupils are required to take notes, make illustrations of apparatus, and record their observations. The inferences are then drawn out by careful questioning, and the principles and laws discovered are accurately noted. Numerous simple experiments are suggested to the pupils to be performed at home. The results of these experiments are also recorded by the pupils and then discussed before the class. Practical applications of the laws demonstrated experimentally are constantly suggested and referred to by both teacher and pupils, and problems are frequently assigned to the class to test their thorough comprehension of the principles investigated. Occasionally, pupils are required to perform experiments in the class-room, but as there is no regularly equipped laboratory at their disposal, these experiments are necessarily very limited in scope. Compositions on given topics are frequently written by the pupils, and each one is expected to treat his topic, as far as possible, from his own experience and observation as recorded in his note book. These compositions are illustrated by diagrams or pictures in elucidation of the text. They form the correlating element between the science and the language work.

Nearly all of the work in Physics in this grade is qualitative, it being intended as a training preliminary to the quantitative laboratory work of the High School.

The results obtained by the method above outlined have been very gratifying. The pupils have taken an intense interest in the work, and frequently carry their investigations much beyond the limits of elementary science. Some have constructed elaborate apparatus of their own devising, showing originality and independence, in thought and research. The note book is considered a very valuable adjunct to the proper study of this science, even in its elementary stages. If the pupils are trained to record accurately, neatly, systematically, and in good English the observations and inferences they make, they are thus early habituated to a careful, analytical mode of doing, thinking, and reasoning, to secure which must always be the object of intellectual training.

Hugo Neuman, Class Teacher, P. S. No. 10.

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Geography.

INTRODUCTION.

BEFORE Comenius, instruction in geography is very little mentioned in the course of study. In his writings only, we find for the first time, definite suggestions as to what material to select for a course of study in geography and how to arrange the course. Further, Comenius was the first to advise us to make the knowledge of local geography and simple observations the basis of the study of our country and of our planet as a whole.

Rousseau expressed views similar to Comenius about the teaching of this subject and strongly denounced the fact that map drawing was substituted for direct observations of the child's environment. Rousseau said, "Let the child see the rivulet, the little lake or pond, the little hill and meadow, and then let these products of observation be developed, by the help of the imagination, into rivers, lakes, mountains and prairies."

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The subject has received very little help from Pestalozzi. But in comparatively recent years, geography has been accorded a high place in the course of study by Ziller and other disciples of Herbart. Ziller accepted the scientific view of Carl Ritter, that the aim of geography is the description of the earth as the *Home of Man*, but he subordinated this view to the general aim of education which is the all-sided, harmonious development of all the faculties, hence, geography is not only an exercise for the memory, but also a means to develop the powers of observation, imagination and reasoning.

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Since geography is to consider the earth as the home of man, it is closely connected with the influences that have made our country and our planet a suitable place for habitation, hence the study of geography should be correlated with the study of human history and natural history. The carrying out of Ziller's views in practice has given rise to what is known as the topical method in the instruction of geography. The topical method demands from the teacher the knowledge of the laws of the operation of the human mind; it further demands that the knowledge should be utilized in the process of instruction. The teacher is not to give dry geographical facts to memorize, but he is to train the observing powers of

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the pupil; he is to appeal to his imagination, to direct the self-activity of the child, to develop his reasoning powers, and to relate facts as cause and effect; lastly, the topical method demands from the teacher careful daily preparation.

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The teacher is not to rely mainly upon the text-book, but he is to supplement this by information from other sources. Books of travel should be made one of the principal aids in teaching geography; the study of the map should be subordinated to other important facts, such as soil, climate, productions, the characteristic plants, animals, industries, peculiarities and habits of the different races and their religions.

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Of course, we are not to forget that the topical method renders its great service, mainly, in the selection and the arrangement of the material for study, but it does not exhaust the question of presentation of the material. Here the teacher, by the use of maps of different scales, often leads his pupils to erroneous ideas in regard to the relative size of countries and to wrong conceptions of their relative positions. This can only be avoided by according the globe a prominent place in the teaching of elementary geography. The teacher should use the globe to fix the idea of the shape of the earth as a sphere, and the division of its surface into oceans, continents, and other divisions of water and land.

From the Geography Monograph.

Geography.

THIRD YEAR—FIRST HALF.

COURSE OF STUDY—Earth Study: Study of the surface; plains, slopes, hills, drainage; surface water, rivers, ponds, lakes, shores, and banks. Natural Phenomena: Cardinal points; observe sunrise and sunset; length of days; length and direction of shadows. Direction of winds; relation of winds to storms; development of storms.

The study of geography in this grade is, of course, of a very elementary character. The natural phenomena, so closely interwoven with it, are taken up as an integral part of the subject. As in all other subjects, it is necessary to begin with a rapid review of the work of the previous half year.

METHODS—Nature herself supplies the materials for earth study and the study of natural phenomena: The sun, the water, the city streets, are studied. The Nature Study work on animals is so closely interrelated with the earth study as to make it necessary to correlate these two branches. It must be obvious that slopes, hills, ponds, etc., will impress themselves upon the child's mind most

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vividly, if the animals living on them, or swimming in them, are studied at the same time.

The children are lead to observe minutely the changes of the shadows in the school yard and the shore lines of the water which may be found near the school house. After a heavy fall of rain, a large pool of water often forms many of the natural divisions of land and water. The children are led to observe these. Whenever practicable, the sand table is used. After the child has observed nature out of doors, he moulds for himself the mountains, slopes, etc.

Drawing is one of the studies which proves most helpful in illustrating and explaining this work. Charts and pictures also arouse enthusiasm and interest, as do poems and stories relevant to the subject. The child often remembers a fact much better by getting a word picture or description in choice rhythmic language. Stevenson's poem of "The Shadow" will readily appeal to the child's mind, while the "Story of Mercury," in whose footsteps beautiful flowers grew, makes an excellent story of the clouds and wind. Needless to say, Tennyson's "Brook," babbling on forever, will interest the pupils.

Written accounts naturally follow the oral discussions.

RESULTS—The child becomes interested in the earth itself, and later enters upon the deeper topics in geography with a feeling that they are realities.

A love of reading is instilled into the child. It is a noticeable fact that books of travel constitute a large percentage of the volumes drawn from the public libraries.

The so called "New Method" is founded upon the influence of God's creations upon the mind. A great advantage gained by the child from being in close association with nature, is the preservation of his pure and fresh imagination.

Marybelle Lounsbury, Class Teacher, P. S. No. 156.

THIRD YEAR—FIRST HALF.

In natural phenomena the children have first been led to observe the every day phenomena surrounding them—the sun, its rising and setting, its influence on the length and direction of shadows and the varying length of days which the changing seasons bring, the stars from which with the sun they have ascertained absolute direction, the various forms of water as found in rain and snow, the direction of winds and their relation to storms. These observations have been verified and supplemented by the teacher's knowledge, and the result, after oral discussion, recorded in the form of compositions.

The same method has been pursued in Earth Study. The children first found the plain, slope, hill, river, pond, and lake in miniature in their immediate neighborhood. Modeling, drawing,

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descriptions and the study of pictures have broadened these ideas into an intelligent conception of the different forms of earth surface, surface waters and the related system of drainage.

To render the work interesting as well as permanent the old Roman and Greek myths have been correlated with the geography, and the best English poetry, read or memorized, has been interwoven wherever possible.

Janet Weil, Class Teacher, P. S. No. 151.

THIRD YEAR—SECOND HALF.

COURSE OF STUDY—Natural Phenomena: Observations made on the daily phenomena, and recorded on charts prepared by the children. Effects of heat and cold on water, man, animals and plants, shown by illustrations, as, the diminution of water in a kettle after boiling; the freezing of water in a glass over night. Hibernation of animals, migration of birds, and the habits and customs of man in adapting himself to climatic conditions were discussed.

EARTH STUDY.—Seeds sown in different kinds of soil and reading lessons on the subject, give ideas of cultivation, and the relations of plants to soil. From their observations of the action of water on slopes, and the need of the plant for good nourishment the children were led to deduce the fact that the best vegetation is found on level ground.

Study of topography and rocks of New York: Starting with the school, the child advanced step by step to a knowledge of the geography of New York City; its people, their occupations, its government, the principal buildings, statues and monuments. In connection with lessons on the latter, stones used in their construction were studied.

The earth as a globe: Home types of land and water were utilized in studying the natural divisions. Motions of the earth were illustrated with an orange, a ball of worsted and knitting needle. Some idea of the earth's size was given by telling the length of time for an ocean voyage or a journey around the world.

In all the geography lessons children were encouraged to tell what they knew, then comprehensive facts were added. Stories and poems relating to nature were read to the children, and some pieces of poetry memorized.

When opportunity offered, history was correlated with geography. The oral lesson was reduced in writing. During this lesson the children were allowed to ask the spelling of new words. Work was illustrated when it was considered helpful. Both drawing and writing served to fix the facts in the child's memory.

Aids used: When feasible journeys were made to nearby places, as a visit to the Battery, to Central Park, to a street having a steep slope. Supplementary reading lessons on various topics

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were given, pictures were shown and simple experiments made. The globe and maps were brought into use.

Results expected: At the end of the term, it is to be hoped that the child's ideas have been broadened, his vocabulary increased, greater facility in oral and written expression attained, and that voluntary observation has become a habit which will bring the child into close communion with nature.

Mary J. Greene, Class Teacher, P. S. No. 137.

THIRD YEAR—SECOND HALF.

In Natural Phenomena the children have throughout the entire term in their weather records, recorded their daily observations of the weather. On these charts, also important national events have also been emphasized, thus correlating history and geography.

The effects of heat and cold on water, plants, animals and man have been studied as the children have seen the results around them, that is,—the evaporation and condensation of water; the fading and falling of leaves; the migration of birds; the hibernation of animals and their own preparation for winter. The great question growing out of these observations, adaptation to climate, have been discussed by selecting peoples of different climates and by means of pictures and stories showing how they have adapted themselves to varying climatic conditions.

Under Earth Study the relation of plant life to soil and surface has been reviewed from a broad standpoint; the children have learned in previous grades by observation the necessity of rich soil and level surface to produce abundant plant life. With this knowledge as a basis the luxuriant vegetation of the tropics has been contrasted with the barren lands of the frozen North; the fertile valleys with the sparsely covered hills.

The study of the rocks of New York included the examination and discussion of such as the children see in their daily life. In the topography of New York the most general statements have been given, Manhattan Island being modeled in clay to explain these statements.

That the earth is a globe with its natural divisions of land and water masses has been studied on the broadest lines in order to give the children a general idea of the earth as a whole. Whenever and wherever it has been possible stories and poems applicable to the work have been read or memorized by the class.

Alice Foran, Class Teacher, P. S. No. 151.

FOURTH YEAR—FIRST HALF.

The aim of the study of geography is ever before the teacher's miud—viz; the study of the earth, with its land, water, air, plants

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and animals; and the study of man, his mode of living, occupation, enlightenment and government; and, finally, the relationships between the two—nature and man,

The general method is based on the child's experience—his observation and, later, reflection.

(*a*) The individual notions of the child from past experience are brought out, diminished or enlarged in content, and correct individual notions apperceived or assimilated.

(*b*) By a synthetic method, new knowledge is related to the old, feelings and emotions stimulated and interest aroused. The related concepts are developed, rationally unified, and led to an end, the general notion—a definition or principle. In this stage the imagination and reflective activity of the mind are brought into active use.

SPECIAL METHOD.—(*a*)—Nearby physical features of the earth are observed with and without the teacher. In this, the aim is first placed before the child's mind, individual notions hinted at, and general truths foreshadowed, in preparatory talks by the teacher and pupils.

(*b*). The ideas gained by the pupils in these expeditions are brought out by the teacher, in the class-room, and false notions are corrected.

(*c*). Verbal descriptions are gained by the pupils, with work on the blackboard—drawings and original maps.

(*d*). Pictures and printed atlases used.

(*e*). The rising and setting of the sun is noticed by the children from time to time. The duration of the days, lengths and directions of shadows, seasons, storms etc., are the subjects of frequent conversations.

(*f*). Pictures explained by the pupils.

(*g*). The reading and writing of descriptions.

The work is always correlated with the history and nature-study of the grade.

AIDS.—The globe, text-book, atlases, trays with sand or clay, compass, sun-dial, descriptions in readers, science books etc. The study of local geography leads up to a study of the world. As in the kindergarten, a miniature community is worked out, with its ideas of co-operation and mutual dependence, so also, does the study of local geography lay the correct basis for the study of the world, with its variations in physical features, in climate and soil, its various races of men, their occupations, customs, manners, morals, religions and governments. It is therefore necessary to have clear and correct notions of the local elements by the means of which the study of the world is to be comprehended.

Subject-matter and order of presentation.

Surface and drainage.—Observation of nearby streets. New and old streets. City built in a way to afford the best drainage.

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Streets high in center, sloping toward curb. Sidewalks slope toward gutter. Sewers. Pipes underground leading to rivers. Sewers of great cities. Their importance in regard to health.

Slopes.—City and country places visited. Hills in the parks. Various streets of the city are hills; *e. g.*, 101st to 102d Streets on Lexington Avenue. Sides of hills called slopes. Illustrate by crumpled paper and drawings.

Rivers around the city.—Observation of rivers. Correlated with slopes and drainage. Cities nearly always built on rivers. Why? The great harbor of New York. Immense traffic to all parts of the country and transportation to foreign countries. Principal exports and imports.

New York Bay.—Its size, and great natural advantages for shipping etc. Its numerous islands affording sites for defenses, health and criminal institutions. Short conversations about each.

Distances and Directions.—From school to places in the vicinity. From home to nearby places. The directions taken to and from such places. Points of the compass marked in the class-room. The hand compass examined by each boy. The rising and setting of the sun. The length and direction of its shadows at different times. Twenty avenue blocks reckoned as one mile.

Blocks, avenues, streets.—Name and direction in which they run. Residence streets and business streets. The streets in the older part of the city compared with the streets in the newer part. Reasons for difference.

Important localities.—Business districts. Money centers. Residential districts.

Parks.—Location of each. For health and recreation. Zoological and botanical gardens. Monuments. Aquarium. Buildings.

Buildings.—Municipal buildings. Public buildings. Libraries, museums, hospitals, hotels, newspaper offices. Schools. Churches. Where situated. Business transacted in each.

Travel and transportation.—Surface roads; bridges; ferries. Bicycles, automobiles, railroads, sail boats, steam boats. Various routes of travel within the city; to nearby places, and to distant places.

Occupations and industries.—Dependent upon climate, soil, and other natural advantages. Manufactures; commerce; agriculture; mining. Inventions. The professions and trades. Exporting and importing.

The world.—Form, size, surface. Illustrated by the globe, maps, eclipses. Surface illustrated by baked apple. How form and size have been demonstrated.

Motions.—Daily and yearly, causing night and day and seasons. Length of time for each motion. Apparent motion of the sun. The seasons. Conversations on each.

Continents.—Their size and relative importance. The portion

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of land and water. Their people; races, occupations, customs and enlightenment.

Oceans.—Their size and relative importance. Characteristics of each.

Mountains, plains, rivers.—The principal chains of mountains. The large plains in each continent. The two determine the great river basins, and watersheds. Their relations to occupations and commerce.

Climate.—The zones. Continents lying partly in each. Distance from equator; winds; ocean currents.

Life in relation to climate.—Mode of living, houses, occupations, dress, and customs dependent upon climate. The plants, animals, and races of different zones.

Annie A. Callahan, Class Teacher, P. S. No. 103.

FOURTH YEAR—SECOND HALF.

SCOPE OF THE WORK.—Review of World Study. Relation of continents and oceans to each other. Comparative advantages of position, size, form, and ouline. Continents in general. Each great body of land is studied with reference to its relative position, size, form and outline. Observe which part of the world ridge is on each continent. Study of the surface and drainage climate and production of each continent. Industries resulting from these productions. Stories of various races. Their connection with current events.

North America in Detail. Review of physical features, including fertile areas. The effect of these features on the location and growth of important cities. Industries resulting from these productions. Distribution of people in North America. Historical facts connected with this distribution. Routes of travel determined by physical features and by distribution of inhabitants.

DISTRIBUTION OF THE TOPICS. 1st Week. Review of World History. Continents and oceans in relation to each other. Comparative advantages in this respect. Accessibility, climate, distance from equator; elevation, contiguity to oceans. Mountain chain around the world.

2d Week. Continents in General. North America, relative position, size, form. Outline indentations, projections, accessibility. Surface, highland, lowland, coast, drainage. Climate, latitude, elevation, nearness to oceans. Productions, animal, vegetable, mineral. 5th, 6th, 7th weeks, South America. 8th, 9th weeks, Europe. 10th, 11th weeks, Asia. 12th week, Africa. These continents are studied in the same manner as North America, but with less detail. 13th week and succeeding weeks, North America, in somewhat greater detail. Review of physical features including fertile areas. Countries, nationality of people, location, comparative size. Chief cities, location and growth depending on physical features. People,

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distribution, industries, routes of travel determined by physical features and distribution of inhabitants. The last three weeks are taken up with a general review.

METHOD OF INSTRUCTION. In the study of geography, globes, maps, pictures and objects are used. Pupils read, from globes and maps, the physical features of all the continents. Pictures are used to illustrate some interesting or important fact about each feature. Pictures of plants and animals are shown and whenever practicable the natural objects themselves. Simple sketch maps are drawn by the pupils to show the outline of the continents, and also to show areas producing the chief products used at home and sent abroad. Reading books, regular and supplementary, dealing with the subjects under discussion, are read. Illustrative gems from literature are memorized; *e. g.* Hiawatha, by Longfellow, Landing of the Pilgrims, by Hemans; The Hudson, by Wallace Bruce.

In a written exercise, consisting of separate statements, a fact that has been correctly stated is marked in colored pencil or ink, with an oblique line, *e. g.* /. If the statement lacks being perfectly correct, but is considered good, the mark used is a check. Under any other condition, the fact is left unmarked. These marks are placed in the left-hand margin of the paper. When the lesson takes the form of a composition, two or three, most suited to the purpose are selected for oral criticism. The best are marked A. Those which are good B. The rest are left unmarked. To get into class A is an incentive to good work.

RESULT. The pupils have shown a great interest in the work. They are more than ever anxious to read books of travel and adventure. They have made a collection of pictures and clippings relating to the different nations and countries of the world. Altogether they have acquired a comprehensive knowledge of the ground gone over.

Mary Rose Collins, Class Teacher, P. S. No. 26.

FIFTH YEAR—FIRST HALF.

COURSE OF STUDY.—1. Review the continents in detail as in grade 4 B, with particular attention to the Eastern Hemisphere. Comparison of continents in features studied. 2. Europe on the plan outlined for the study of North America; also, distribution of nations in relation to topography and to irregular coast line.

ANALYSIS.—Having thoroughly reviewed the continents with particular attention to the Eastern Hemisphere, the detail of the study of Europe was begun.

Europe as a whole: Location, size and importance, form and outline, climate, surface, drainage, animals, productions, location, size, and form. Shown by means of wall maps, globes; also maps

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rapidly sketched upon the blackboard and upon paper. Attention was drawn to the long irregular coast line indented by numerous gulfs, bays and seas, thus forming many peninsulas and good harbors for shipping. The pupils were then led to see that the climate largely depended upon latitude, elevation, distance from the sea, ocean and air currents. Europe was divided into—Mediterranean Europe, North Western Europe and Russia for the purpose of studying its climate and productions.

For the study of surface and drainage, the division of the continent into High and Low Europe was first considered ; then the separate ridges, slopes, plains, rivers and river basins and their effect upon fertility and productiveness. Relief maps, drawn by the children, were important aids to the study of the surface.

The separate countries of Europe were then considered. Countries of Europe classified as, The Six Great Powers, The Lesser Powers.

Leading Cities—selected for their importance due to situation, industry, places of interest, historical features, etc. For instance, when studying industries, reasons for their importance and prominence were given—climate, natural resources, surface, population, tastes of people and their civilization. Our touch with Europe was kept in mind.

Route of Travel and Commerce—Well planned imaginary excursions or journeys were taken for pleasure or business, and this part of the work was greatly aided by pictures and supplementary reading.

METHOD.—With geography was correlated history, nature study, pictorial drawing and language. Poems were studied for recitation.

In order to make the subject matter interesting, appropriate pictures including those of scenery, historical places of interest, types of Europeans, and others illustrative of the climate, occupations, homes, etc., and specimens of nature, such as cork, cotton, cocoon of the silk-worm, minerals, etc., were shown. The children were encouraged to tell what they had heard or read on the subject and pictures were drawn by them on the blackboard and paper.

Such books as "The Great Round World," numerous supplementary readers and library books furnished valuable information. Interesting topics were used as the basis of compositions.

With the study of geography, history was correlated in the following manner: With the review of the continents the races of men were considered first, and then the migration of the Hindoos, Greeks, Romans and Persians. When studying Europe as a whole, we studied the part that became civilized first, and then followed the spread of civilization over Europe.

Margaret Lang, Class Teacher, P. S. No. 54.

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FIFTH YEAR—SECOND HALF.

The course of study in Geography is as follows: 1. The United States as a whole. 2. Groups of States.

When the pupils have completed the study of the United States as a whole, they will be prepared to take up the Groups of States, which, from their previous knowledge, they will discern is simply a repetition, only more in detail. The history for this grade is: The Colonies, their settlement and colonial history, pioneers within the territory of the present United States, and the territorial growth of our country.

The close relationship of these two studies in this grade makes the subject deeply interesting and enjoyable to both teacher and class. In the course of instruction pursued, the aim has been to lead the children to observe the connection between the geographic condition of the country and the growth of history.

Beginning with the United States as a whole, the first thing considered is its position in the great "Home Continent," which they have already studied in the last half of the fourth year. The position of the United States was compared with that of some other country on the globe.

China is found to be in the same latitude, has the same climate, has good facilities for commerce. Why, then, is the United States so much wealthier and more powerful than China, a country numbering its years by thousands?

The position absolute and relative of the country being defined, a study of its contour follows. By means of a good outline map and an outline sketch on the blackboard, the pupils are shown the long, indented coast line.

They contrast the "rock-bound coast" of New England with the much more broken and sandy shores of the Middle Atlantic States. The need of light-houses, the breakwater off Delaware Bay, the Chesapeake Bay and its great indentation. Then the great Gulf of Mexico. Here their attention is directed to the fact that the Gulf States are exposed to the warm, moist winds of the tropics.

The contour is followed by the division of the United States into its five great regions. The natural curiosities of the Pacific Highland are made plain to the pupils by means of pictures, descriptions from geographical readers, books of travel, and lessons in different class readers.

The Appalachian Highland follows, and is dissected in like manner, and at the same time is contrasted with the Pacific Highland. The grandeur of the scenery in the Adirondacks and White Mountains, and the many beautiful lakes, the fabulous amount of money this great system represents outside, the great forests, within, the mines of coal and iron are all discussed. Supplementary reading for this lesson is on oil wells, natural gas, etc. Each pupil is provided with a note book in which he is encouraged to keep an

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outline of his work and any notes, which will aid him in composition.

The Mississippi Valley with its great rivers is next presented. The Mississippi River is likened to a giant tree with branches stretching east and west. The supplementary reading in connection with this lesson is about De Soto, La Salle, Joliet, etc. The valley is divided into its different sections—Western Plains, Prairies, Ozark region.

The Great Lakes are considered as great basins of different sizes connected by tubes. A sketch shows that each basin is a little lower than the one on the left, that Erie has the least depth of all, and none below the sea-level, that Ontario has the greatest depth below the sea, that Ontario receives the waters of all the lakes, and that to reach Ontario all this water must fall 165 feet—hence the Niagara Falls. A picture of the falls is placed on the class-room wall.

Having thus discussed the Mississippi Valley, the Atlantic and Pacific slopes are compared in the following manner: width, trend of rivers, climate of Atlantic compared with the Pacific, Piedmont belt (foot of mountain), great agricultural region, swampy lands in Virginia and Carolinas, how Washington tried to reclaim the land, the cultivation of rice, the mild climate of California, its rich mines of precious metals, its fine fruits and wines.

In studying the areas and distribution of products, which are now introduced, outline maps with areas marked in colored crayon are drawn. These are most beautifully illustrated in Frye's Geography. The pupils when studying the Pacific Highland, learned that the rainfall in the great basin and Western Plains is light, and the soil is dry and sandy. They readily see why the Western Plains are treeless, and also why the Eastern half of the United States is more heavily wooded than the Western. The great trees of California are discussed. The geographical readers furnish fields of reading in that line.

When studying the region of gold and silver, the attention of the pupil is called to the growth of California following the discovery of gold. Mention is also made of the recent discovery of gold in the "Klondike" region. By means of a Current Event Book, the pupils are kept in touch with the current events of the day. This book is assigned to a pupil in the class. He pastes in the book all clippings from the newspapers brought in by the pupils and approved by the teacher. The children need but little encouragement to do this work. Another book containing pictures, which bear on the course of study for this grade is kept by another boy.

Studying the areas of distribution of products in this way, I have found that when the pupils divide the States into groups, they have already become acquainted with the names of the States,

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the mountains, many rivers, the chief commercial points, chief cities, products, manufactures, industries, etc.

Before taking up the groups of States, the Territorial growth of the country is studied. The original thirteen colonies taught. These are illustrated to show the extent of the United States in its infancy. Then is added the Louisiana Purchase, Florida Purchase, Texas, etc. These illustrations make a series of maps in a progressive form, each showing a new acquisition of territory.

The pupils are made acquainted with the particulars of each tract of territory, and they condense the account in their note books. They are ready, having covered the United States as a whole and traced its territorial growth, to dissect it into groups of States.

The following outline is now given to the pupils to copy into their note books: 1. Position, 2. Extent, 3. Outline, 4. Surface, 5. Drainage, 6. Climate, 7. Productions, 8. Commerce, 9. Cities, 10. Social Life.

The effort has been to draw from the pupils, telling only the necessary facts which they cannot discover for themselves. Beginning with the North Atlantic States, the pupils follow the outline with the teacher. To aid the pupils in locating the cities, rivers, etc., selections in literature, anecdotes in history, in short, whatever will aid the memory is introduced and taught. The aim throughout has been to keep in view the fact that it is the mental growth of the pupil that is to be considered, and not how many questions of the text book he can answer.

Ida J. Guiles, Class Teacher, P. S. No. 154.

SIXTH YEAR—FIRST HALF.

COURSE OF STUDY.—1. Canada, Mexico, Central America, and the West Indies. Physical, political, commercial. Resources, productions, inhabitants, cities, industries. Comparison with the United States. 2. South America in detail. Physical, political, commercial. Resources, productions, exports, imports, people, cities, routes of travel. Comparison with North America. Relations with the United States and Europe.

As the history in this grade is practically the discovery, exploration, conquest, and settlement of the regions mentioned above, a close correlation with the geography is evidently designed.

METHOD.—The topical method is pursued in our class. It saves time, and, calling for independent work and research on the part of the pupils, rouses their enthusiasm. Topics are assigned for home preparation, and a list of books for reference is furnished to the pupils. This outside reading supplies detail, often giving word pictures of the region under consideration, or showing man's relation to the country he inhabits. In this work, the free libraries are available and are of inestimable value to the schools.

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The structural geography of North America as a whole was our first aim. In addition to the physical map, pictures of relief maps and profile sections of the country were used to illustrate elevations and slopes, which led naturally to the drainage of the continent. The surface and drainage explain many facts connected with the climate, the life, the productions, and consequent occupations of the people. Now the pupils see that the character of a country determines the location of the cities, and a reason for their existence is apparent.

A busy wharf in New York furnishes material for a lesson on the growth of cities, and incidentally brings out the work of an exporter, an importer, a commission merchant, and an agent, terms used in the arithmetic of the grade.

Then, two or three lessons on the characteristic plants of such a region as tropical Mexico, the West Indies, or the Selvas, will give the class an idea of occupations resulting from natural products. They see young and old employed in the sugar fields of Cuba. The necessity for haste in boiling the juice is apparent, and they are prepared for sugar factories going day and night during the short season.

Since the map is used only as a diagram, pictures are placed before the pupils to give them a real impression. The pictures used were cut from circulars, routes of travel, guide-books, and magazines. They were mounted on cards and circulated. The trunk lines often issue circulars, giving graphic descriptions. Such are kept intact for reference.

To test their powers of observation, the pupils are required to write a description of a picture studied, or to tell what they gather from it regarding the prevailing customs of that country, thus interrelating geography with composition and language. Rapid sketching of maps from memory is a valuable aid in review.

In teaching South America, the same method is used. The power gained through a topical study of North America comes into play now, and a comparison of the two continents brings out many points of similarity in surface and drainage, and differences in climate and productions.

The comparison of semi-tropical North America with the United States has taught the pupils that "the whole wealth of the world has been created by a union of human industry with the materials which God had originally spread around us." Having thus discovered the influence of climate on civilization, they are prepared to find non-progressive people in tropical South America.

The history has kept pace with the geography, and the pupils see a country whose development has been retarded not only by tropical languor, but by revolutions, unstable government, and civil wars. From their reading, they will learn that an influx of energetic Europeans and Americans is bringing about the conditions

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necessary to enable South America to take her place among the foremost countries of the world.

Minnie Lutz, Class Teacher, P. S. No. 76.

SIXTH YEAR—SECOND HALE.

COURSE OF STUDY.—1.—Physical Geography: A comparative study of all the continents with reference to physical features; surface, mountains, plateaus, formation of river basins, plains; rivers, kinds, work, uses, floods, deltas, outlines, coast. Climate, temperature, winds, rainfall; ocean currents, effects upon climate; productions, relation to climate and elevation; mineral resources; forests; population, dependence upon surface, climate, outline.—2.—Mathematical Geography: Zones, circles, poles; longitude, latitude, time, motions of earth, effects; tides; eclipses, solar system.

Previous to the work of the grade the child has been gradually led from the known environments of home outward into the great unknown world; from the district in which it lives to its own country and then to other countries, until it has become familiar with the different features of the surface of the earth, its natural divisions, and its political sub-divisions.

In this grade we take up the subject as one great whole, and place before the mind of the child the material globe, with the great life-system upon it, its surrounding atmosphere, the sea and the land, in such a manner that it may realize not only what these elements are in themselves but consider them in their mutual relations, and thus become familiar with the causes which underlie the natural phenomena, and explain their occurrence.

Since, therefore, Physical Geography explains how the laws of nature operate upon the earth, the air, the water and even upon plant and animal life, its proper study would naturally pre-suppose a knowledge of Physical Science; but as Physical Geography precedes this subject in the Course of Study we deemed it advisable to introduce the work in this grade by a preliminary talk on some of the general laws and forces of nature.

Then we consider the Earth as a planet; the position among and relation to other heavenly bodies, especially the sun, its source of light and heat. Here, as well as throughout the whole study, we should utilize to the best advantage the simple observations of the child, and encourage it to make further explorations into the great unknown realm now opened up to it, perhaps for the first time.

Secondly, we consider the envelope of the earth, the air, and lead the child to understand what it really is; that it is permeated with moisture drawn from the sea to keep the land portions of the earth moist and therefore productive; how its movements in the form of constant or variable winds accomplish this purpose.

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Next we require the pupil to direct his attention to that vast expanse of water, known as the Sea, which covers the greater portion of the earth's surface; to follow its tides and currents in their work, and trace the vapors evaporated from its surface by the heated atmosphere, until they descend upon the land.

Fourthly, we consider the Land itself; how certain forces of nature acting upon the earth's crust upheaved portions of the bed of the sea causing them to rise above its waters, and thus, Land, the future home of man, made its appearance in the form of continents and islands. Here we carefully compare the various land masses with reference to their relief forms. We then take up those wonderful natural phenomena, volcanoes and earthquakes, study their causes and trace their effects upon the earth's surface.

The great systems of Oceanic and Continental Drainage now claim an important share of our attention; the former with its glaciers, snow-fields and immense river-systems; the latter with its underground rivers, springs, lakes and inland seas.

The evidence of constant change on the surface of the land, as shown so clearly by the formation of deltas, leads us to consider the combined action of air and water, as land sculptors, and thus we drift into the subject of Geology; in fact so closely is this subject linked with that of Physical Geography, that it is impossible to take one step without correlation: therefore we must so arrange the science work of the grade, as to keep pace with the geography. We also correlate with Literature by encouraging the pupil to read simple scientific works. When written lessons are required we encourage the pupil to give simple illustrations with the pen or pencil and so correlate drawing and composition with this subject.

Finally the causes and effects of Climate are considered by us, and we see that there is a geographical distribution of climates, each with its own distinguishing species of plants and animals, and its peculiar races of men.

The objective method of teaching predominates throughout the presentation of this subject. The use of sand, clay and the modeling-board assists in establishing the correct idea of relief forms; while, with the addition of water, the idea of drainage, with all its accompanying effects is exemplified.

Thus from the consideration of the mechanism of this great world of ours, we lead the pupil to see that all works harmoniously toward one great end, namely, the welfare of Mankind; the beneficient design of the Creator.

Sara J. Keenan, Class Teacher, P. S. No. 10.

SIXTH YEAR—SECOND HALF.

In the lower grades, each continent was studied by itself: in this, the work was done by selecting the primary mountain systems

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of each continent, and making comparisons as to length, height, direction, proximity to sea, causes for their existence, volcanoes, etc. Next the smaller systems, and in turn, plains, plateaus, drainage in general, rivers, seas, etc., were taken and compared; the plains and plateaus as to form, elevation, position and usefulness to mankind; rivers, seas, etc., as to length, general direction, force, and how adapted to man's benefit.

This was accomplished by constant use of maps and globes. The various masses of their features were depicted in various colors, shades and lines on maps drawn to different scales, and what each feature represented thoroughly explained. A careful examination of the map was necessary, before comparisons could be attempted. A map well read, will tell its own story of highland, lowland, drainage, etc. This map-reading caused habits of observation, which, with frequent revision, could not fail to impress upon the pupils' memory the comparative position, size and shape of the various masses. The drainage and land and water masses were compared with the condition of streets and gutters during and after a rain-storm. Floods, deltas, bars, uses of seas, were similarly explained.

The text was, in every case, read and explained and put into simple language expression by the pupils, recourse to the dictionary being encouraged.

Home lessons consisted of map-readings, map-drawings, topical compositions and text lessons.

In the class-room, globes, wall-maps and blackboard-maps were used. The board drawings were filled in by different boys. At first, outline tracing was permitted, physical features being filled in from memory; later, entire maps were drawn from memory. These reproductions were rapidly made, the object being to get general characteristics and not fine map-drawing.

In the teaching of this subject, it was thought best to show the existing facts as resultants, and not merely as facts. The "why" was constantly encouraged and in every practical case, satisfactorily answered.

Among the subjects necessarily more or less adverted to were—history, drawing, composition, arithmetic, spelling, reading and mineralogy, as is obvious from the brief outlines, and finished work herewith submitted.

Louis J. Falk, Class Teacher, P. S. No. 25.

SEVENTH YEAR—FIRST HALF.

METHOD.—Text-book method combined with lecture method, the subject correlated with history, English and drawing.

First.—A study of the United States as to physical features and conditions, location and the influence of the same upon its

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productions, the character of its people, its government, social and commercial development; its principal cities and to what their growth, location, and importance is due. The study of its dependencies showing how the acquirement of these increases commercial importance, both foreign and domestic; routes of travel and what conditions led to the establishment of the same; their present importance commercially, and why this importance has increased or decreased; the influence of government upon a country and its dependencies, both socially and commercially.

Other countries of North America and those of Europe are studied in like manner, and the same compared with the United States. The commercial relations of the different countries and why these relations exist. What natural resources, methods of transportation, forms of government, or position tend to increase these relations. Treaties.

Much use is made of good magazine articles and illustrations, and pupils are encouraged to make outside research. Current topics are discussed and English constantly emphasized. Compositions on the subjects discussed are written by pupils from time to time. The result of this method has been a lively and continued interest on the part of the class, in all topics relating to the history and progress of nations.

Monah M. Morgan, Class Teacher, P. S. No. 97.

SEVENTH YEAR—SECOND HALF.

The requirements of grade 7B in geography are the political and commercial study in South America, Asia, Africa and Australia; the races of mankind and religions of the world.

In taking up the work of this grade, the topical method is pursued, globes, maps and charts are freely used, oral and written work is required, and the pupils are encouraged to consult encyclopedias, gazetteers, and the daily papers. The lessons are so conducted as to train the pupils in correct expression, and to create a desire to learn something of the history and literature of the people under discussion.

The consideration of the continent of South America embraces its physical, political and commercial geography, and the lessons of the first week treat of the position, plateaus, slopes, plains, drainage, etc. This is followed by an essay on the climate, the distribution of the inhabitants, and the industries and occupations. Then the animal and vegetable life, the resources, productions and commercial routes are taken up. The political and natural boundaries of the countries and the location of the cities, etc., are located on carefully drawn maps. This work is intended to develop correct ideas of form, and exercise judgment, accuracy, taste in coloring, and neatness. Memory maps are also sketched rapidly to show the contour and important details. A review completes the work.

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In studying Asia, maps and charts are freely used, and attention is directed to the size, irregular coast-line, highlands, lowlands, deserts, fertile areas, climate, etc. Maps are drawn illustrating this line of work. The next essay treats of Asia as the birthplace of the human race, and of the religions of the world, their history, antiquity and influence on mankind.

Following in order comes the study of animal and vegetable life, more particularly animals, and their uses to man. We next take the governments, resources, commercial routes, exports, the countries of Asia, and the treaty ports of China.

The study of Africa proceeds along similar lines to show the outline, elevations, climate and its effect upon the productions and the industries; the barren and the fertile regions, means of travel, and the distribution of the inhabitants in accordance with the topography of the country. Emphasis is laid upon the territorial partition of Africa by the European powers.

Australia and the surrounding islands are studied in relation to their location, climate, productions and inhabitants. The political institutions are also considered, and the Australian Ballot System and its benefits are fully elucidated.

Frank A. Schmidt, Class Teacher, P. S. No. 49.

SEVENTH YEAR—FIRST HALF.

SCOPE. The work prescribed for this grade is a comparative study of North America and Europe.

PLAN.—In this class these portions of the world are considered as "The Home of Man." Perforce the physical features are reviewed as to their influence on the condition of man, and as to their effect on the commercial, industrial and political relations of the nations concerned.

Man being considered in his abode, the thought of travel easily suggests itself. His methods of conveyance and transportation are next discussed, and so, we are carried on wings of thought to China, where man is the beast of burden, to India, with the elephant, or to Peru, with the llama. Thus we circle the globe, memory recalling history by innumerable associations.

This topic completed, the United States are next considered generally and severally. The vegetable productions of each section are contrasted and compared. Here again the domain of History is invaded; for tobacco is ever associated with our early colonies; cotton recalls Eli Whitney and the Negro; while with the mention of gold, spring up the cession of Mexico, and the admission of California; thus geographical ideas are ever closely associated with those of history.

Leaving North America, we are brought to the seaboard countries of Europe, whose emigrants are the progenitors of the greater

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part of the population of this land. Inquiry into the causes of this emigration leads to the study and comparison of their governments, army, navy, etc, with like institutions in our own country. A study of their colonial systems, founded by their governments or by the enterprise of the people, leads to every quarter of the globe.

Thus it is that the work of this grade necessitates a review of the preceding and certainly prepares the way for the succeeding. Thus it is that with the geography is ever associated the geology, history and ethnography.

Knowing that the powers of observation are most alert in children, the globe and map are supplemented by pictures to intensify the concept and assist the imagination. Where possible, to avoid overburdening the memory statistics are supplanted by graphic illustration.

RESULTS. The mention and discussion of topics historical, biographical, etc., in the class have led to personal investigations on the part of many of the pupils. They have borrowed books from the neighboring libraries and in the class have read from them many new and interesting selections. The interest thus aroused has led some to read more and better books. with a consequent tendency to improve their language, increase their vocabulary, and familiarize them with the use of geographical terms.

Edward F. McSorley, Class Teacher, P. S. No. 25.

SEVENTH YEAR—SECOND HALF.

South America having been taken up in a preceding grade, a comparatively short time need be given to its study. It is necessary however, to recall the main features of its elevation, drainage, climate and coast line, as affecting either the nature and the location of its productions, or the character of its inhabitants, and their means of communication with each other and with the outside world. In considering it politically, the fickle character of a considerable portion of its population, resulting in frequent overturning of governments republican only in name, is pointed out as tending to discourage the investment of capital; while, on the other hand, under a more stable rule, the progress of countries like Chili and Argentine is noted.

Passing to the commercial relations between South America and the United States, we find them far more satisfactory, owing largely to limited means of communication. Latest reports show that, of our total agricultural exports for five years, less than two per cent. were marketed in South America. Although coal can be shipped as cheap from Newport News as from England, European traders have the advantage of regular and frequent steam connections with South American ports.

The complex structure of Asia, with its vast distances, its variety of climate, and its barriers of mountains and deserts, leads us

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to expect a resulting diversity of races and occupations. In its fertile river basins we find the ancient seats of empire and centres of trade. From those in proximity to Europe have proceeded the beginnings of Western civilization. India and China, shut in by almost impassable bounds of desert and mountain, have sunk into stagnant civilizations which have yielded, or seem about to yield to the inroads of foreign colonizers.

In studying the political map of Asia, we observe the growing interests of Germany in Asia Minor and the Euphrates Valley, the steady progress of Russia, from the West and North, towards coveted Southern ports, building, as she advances, railways on which to move her armies, and the occupation of these powers, together with Great Britain and France, of advantageous positions on the Eastern coast.

Our own recently acquired Pacific possessions give the United States a vastly increased interest in Oriental trade and a corresponding desire for open markets for its goods. We look to the Philippines, to China, Japan, and Korea for markets for the flour and lumber of the Pacific States, the raw and manufactured cotton of the South, the petroleum and cotton goods of the East, and the manufactured iron of the Central West. Therefore the attention of the pupil is directed to the present and prospective importance of the Pacific, as the highway of a commerce which already requires for its prosecution seven lines of steamships from our Western coast.

Africa, viewed commercially, is regarded as divided into two distinct parts by the Desert of Sahara. The country to the North by means of the Mediterranean, has been in communication with Southern Europe for centuries. That to the South, except for a narrow fringe, has been unknown until recent years. The disadvantages, as regards trade, under which this portion of Africa labors, are apparent. Among them are the absence, near the coast, of industrious peoples with raw or manufactured products to invite trade, and the difficulty of penetrating the interior, owing to the character of the rivers. Now that the continent has been parceled out among European nations, we may expect that the rivalries of commerce will develop methods of communication that will supplant the slow and costly means of transport by native porters.

In Australia, we notice the wonderful advance in civilization which a colonial population has made in a period scarcely exceeding the lifetime of two generations. We see that the energy of its explorers and settlers, almost entirely of British stock, has converted what was, at the beginning of the century, practically an unknown land, into the home of nearly four millions of busy people, said to be, man for man, the richest on the globe.

After the pupil has studied somewhat in detail the different continents, he is better prepared to take a comprehensive view of

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their commercial relations and to understand the comparative advantages or disadvantages depending upon location and character of people. A simple race division of mankind, based on the color of the skin, and the kind of hair, is into the White, the Black, and the Yellow, three or four sub-divisions of each being made.

Under the head of the "Religions of the World," we find the two great divisions of monotheism and polytheism, each embracing three sub-heads. The distinction of the chief representatives of these races and religions is taught as the different countries come up for study in the course of grade work.

Edward W. Rice, Class Teacher, P. S. No. 101.

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History.

INTRODUCTION.

HOW HISTORY SHOULD BE TAUGHT.

From the Report of the Conference on History to the Committee of Ten:

"The result which is popularly supposed to be gained from history, and which most teachers aim to reach, is the acquirement of a body of useful facts. In our judgment this is in itself the most difficult and the least important outcome of historical study. Facts of themselves are hard to learn, even when supported by artificial systems of memorizing, and the value of detached historical facts is small in proportion to the effort necessary to acquire and retain them."

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"The principal end of all education is training. In this respect history has a value different from, but in no way inferior to, that of language, mechanics, and science. The mind is chiefly developed in three ways: by cultivating the powers of discriminating observation; by strengthening the logical faculty of following an argument from point to point; and by improving the process of comparison, that is, the judgment.

"As studies in language and in the natural sciences are best adapted to cultivate the habits of observation: as mathematics are the traditional training of the reasoning faculties: so history and its allied branches are better adapted than any other studies to promote the invaluable mental power which we call the judgment. Hence statesmen have usually been careful students of history."

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"Another very important object of historical teaching is moral training. History is the study of human character. 'Perhaps the most valuable part of our work,' says a teacher, 'is that we are all made—teacher as well as pupil—to learn personal lessons from history, to watch the course of humanity as we would that of an individual, to shun its errors, and make use of its excellencies,' and it is a study in which the mistakes and failures of national life, like those of private life, become suggestive warnings."

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"To sum up, one object of historical study is the acquirement of useful facts; but the chief object is the training of the judgment,

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in selecting the grounds of an opinion, in accumulating materials for an opinion, in putting things together, in generalizing upon facts, in estimating character, in applying the lessons of history to current events, and in accustoming children to state their conclusions in their own words."

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"It is well in a brief talk to present the substance of the next or of approaching lessons, so as to suggest to the scholar the relations of the facts he is about to study. 'In my presentation of a subject,' writes a teacher, 'I always work from circumference to center. I sketch, first, the barest outlines of the whole, so that the pupils may see the bearing and feel the relative importance of the subject in hand."

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"Set lectures on the lesson, while very suitable for colleges, are not so well adapted to schools. To be useful, they require elaborate note-taking,—a severe strain if well done, and if ill done productive of mental dissipation. We incline to recommend only informal talks which will explain the cause and effect of events, and which may add interesting illustrations and comparisons to the lesson of the day, as it appears in the text-book."

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"We recommend further that a practice be established in the schools of using two, three, or four parallel text-books at a time. By preparing in different books, or, by using more than one book on a lesson, pupils will acquire the habit of comparison and the no less important habit of doubting whether any one book covers the ground. The practical difficulties are few; where school boards buy text-books, four sets of ten books each, cost no more than one set of forty books."

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"What is learned in text-books ought in most cases to be brought home to the mind in recitations, which should be less a test of faithfulness than a supplement to the reading. It is better to omit history altogether than to teach it in the old-fashioned way, by setting pupils painfully to reproduce the words of a text-book, without comment or suggestion on the teacher's part. The first duty of the teacher is to emphasize the essential points in the book, to show, if possible, what is the main thing worth remembering in the lesson of the day."

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"Again, the question in a recitation ought not to demand from the pupils a bald repetition of the phrases or ideas of the book, but ought to call for comparison and comment. The opinions ought constantly to go forward and backward, to bring up points of comparison from previous lessons, and to bring in illustrations from other parallel subjects."

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"How far should pupils be expected to memorize? 'A few things should be learned by heart, and, when forgotten, learned again, to serve as a firm ground-work upon which to group one's knowledge: without knowing the succession of dynasties, or of sovereigns, or of presidents, or the dates of the great constitutional events, the pupil's stock of information will have no more form than a jelly-fish.' But those few necessary facts ought to be clearly defined as only a framework to assist the memory."

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"An excellent suggestion is that of 'open text-book recitations,' in which with their books before them, pupils are asked questions on cause and effect, on relations with previous lessons, etc.: answers may, if necessary, be written out and corrected in class. Such an exercise trains pupils to take in the thought of a printed page, and to grasp the essential points.

"Such a system tends to encourage the habit of applying what one knows to a new problem. Still more hopeful in the same direction are the off-hand discussions and impromptu debates which spring up in an eager class, and which should be encouraged by every good teacher."

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"Another form of recitation is the written exercise repeated at frequent intervals: a single properly framed question given at the beginning or end of each recitation, with ten minutes to answer it in writing, will train pupils in the habit of combining and applying their own information. For such an exercise, questions involving comparisons are well adapted."

History.

FOURTH YEAR—FIRST HALF.

There are two divisions of the history taught in this grade. I. Local History. (a) Settlement of Manhattan Island. (b) Short stories of men prominent in the history of the city. 2. World History. (a) Old stories of the East. (b) Norse legends. (c) Myths.

The home history is essentially local and consists mainly of stories relative to the discovery of the Hudson River, the settlement of Manhattan Island, stories of the Indian tribes in the immediate vicinity, and of the early settlers, customs, means of travel, source of supplies, occupations, etc. This history includes sketches of the lives and influence of men prominent in local history, especially of Hudson, Stuyvesant, Fulton, and Peter Cooper. To this is added monuments, buildings and places which have an historical interest.

Under world history are included the Greek myths of Ceres, Aeolus, Apollo, Vulcan and Neptune and the Norse legends of Leif and Thorwald. Under old stories of the East, the Flood, the Tower of Babel, the Crossing of the Red Sea.

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The general plan pursued in history is to tell the pupils short stories, correlating with their geography and drawing. For a drill, the pupils are questioned so as to bring out salient points. Summary: Placing questions on the blackboard in the form of topics, so that children can write statements, thus producing a connected story and correlating language.

Eleanor C. Gleason, Class Teacher P. S. No. 79.

FOURTH YEAR—FIRST HALF.

The home history of this grade treats of the early Dutch settlements, beginning with the discovery of the Hudson River. This introduces the Indian, the first inhabitant of this continent, who was seen by Henry Hudson as he sailed up our beautiful river. The discovery of the Hudson led to the settlement of Manhattan Island by the Dutch, and we learn of their merrymakings, their mode of life, occupations and means of travel.

Closely interwoven with the growth of the colony are the points of historic interest connected with the island. Cooper Union is a living testimony of the generosity of Peter Cooper. And who looking upon the Hudson can ever forget what Robert Fulton did for the cause of commerce? Brave old Peter Stuyvesant is recalled every time the square named after him is traversed.

In the World History the science of the grade serves as a basis for some of the classic stories of earth, sun, water, air and fire.

Two lessons each week are assigned to the subject. The first, a narration by the teacher, and from the pupils, development of new thoughts. In the second, the stories are reproduced by the children, orally and in writing. Frequent use is made of maps, pictures and blackboard illustrations.

Alys J. Dabour, Class Teacher P. S. No. 73.

FOURTH YEAR—SECOND HALF.

COURSE OF STUDY. (1) The World History: Classic stories of the Old World; stories of early nations around the Mediterranean Sea; early adventures, as Marco Polo, Da Gama, traders with the East. (2) The New world: Stories of discovery and exploration. Stories of the Indians, Esquimaux, and other early American people. Stories of the Norsemen, Columbus, De Soto, Balboa, Magellan, Cabot, Drake, Hudson.

The work of this grade, as in previous grades, consists of stories of the World's History and of the History of the New World told to the children by the teacher and then retold by the children and in many cases reproduced in writing.

The teacher's aim has been to so plan these stories that they shall make a more or less connected narrative from earliest time to the early part of the Seventeenth Century. The plan followed has

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been to trace the history of peoples and men rather than to give much attention to battles and conquests. With this in view, the teacher told brief stories of the Aryans from the earliest known history and traced the gradual spread of civilization westward through Europe to America. This gave a connected account of the Aryans, Egyptians, Phoenicians, Greeks and Romans, with an account of the Roman Empire and its extension into Spain and Portugal and to Great Britain where it came in touch with the people of Northern Europe. This naturally led to stories of the Norsemen and their journeys to Iceland, to Greenland and finally to America.

The stories of the wealth of the Indies, which had been told in Southern Europe, led adventurous travelers and brave seamen like Da Gama and Columbus to try to reach these far off lands. The discoveries of Da Gama and Columbus led the English to make voyages in the same direction, and stories of the Cabots and of Drake furnish the material for this part of the work. The discoveries of Columbus led naturally to stories of Balboa, Magellan and De Soto. The story of Henry Hudson and his voyage to the New World brings the children to familiar scenes and to a realizing sense of the close touch of all that they have heard, with the river, bay and island near their homes.

In all this work the teacher has made constant use of the map of the world, and the children have drawn maps, have collected and drawn pictures illustrating the subject matter and have reproduced many of the subjects in compositions.

Mary H. Herbert, Teacher, P. S. No. 60.

FOURTH YEAR—SECOND HALF.

In whatever guise presented, history is a subject for the philosopher, the student, the moralist, and, though lightly dealt with in school by the teacher, it demands from her thoughtful reading and careful preparation for the attainment of happy results in teaching it. With such a conception of the magnitude of this subject, the teacher pursued the following outline with some degree of success.

Starting from Egypt as the birthplace of the earliest recorded civilization, she led the child by logical stages to follow the successive steps taken by the human race in its progressive march. Leaving the mythical Egyptians the child passed to a study of the Chaldeans, the founders of Asiatic culture, tracing to the influence of that people, the rapid development of the arts and sciences among the Assyrian-Babylonian nations.

Through the study of the latter peoples, the child was introduced to their vassals, the Hebrews, to their commercial allies, the Phoenicians, and to the Persians, contestants with the Babylonians for Asiatic supremacy.

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The maritime enterprise of the Phoenicians brought the child, in turn, to the peoples of Southern Europe, the beauty-loving Greeks and the martial Romans. Here opportunity was afforded for introducing those classic myths that have for child and man alike, an unfailing charm in the recital of heroic feats and god like deeds.

After studying the Romans, the stage of human events was transferred from Europe to America; and the child followed the footsteps of the resolute Columbus, of the courageous Cortez, of the indomitable De Soto, with the same unflagging interest that the tour into the realms of Grecian story evoked.

In order that the child might have a better understanding of the life of a people, he was first taught its physical surroundings that he might learn how environment had influenced its destiny. In securing such an understanding, the aid rendered by historic charts was of inestimable value. The most salient features of the nation's life were then related by the teacher as graphically as the subject permitted.

This description brought to the child's observation many new words. That he might right reach the full significance of the story, such words were placed upon the board and carefully explained, the orthography of the more important words being reserved for special study. To impress these words upon the child's memory, the teacher introduced them into her conversation; and she was often gratified to note the pleased look which flashed across the child's face as he recognized their import.

By means of a topical outline placed before him the child was enabled to render an oral reproduction of the teacher's story. This recital gave the members of the class innumerable opportunities for exercising their critical faculties. Care, however, was taken not to interrupt the narrator except to correct obscurity of expression or errors in English.

When sufficient time had been allowed the child for the mental assimilation of his new ideas, he was required to write his conception of the story—aided by a topical outline.

Simple books, relating to the peoples studied, were read by the pupil, and served the two-fold purpose of stimulating the child's interest in the lessons and of creating a taste for historical literature.

In presenting the subject of history to the child, it has been the constant aim of the teacher, 1. To give the child a freer use of language; 2. To develop his imaginative powers; 3. To increase his knowledge; 4. To widen his mental horizon so that he may view natural events with a truer comprehension.

The teacher hopes that she has impressed upon the child the imperishable truth that only those nations and individuals who have cultivated what was truest and best, have ever really helped in the progress of the world.

Lulu R. Kirkman, Class Teacher P. S. No. 41.

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FIFTH YEAR—FIRST HALF.

COURSE OF STUDY. 1. Stories of the Old World typical of the races of mankind. 2. Exploits and adventures of Europeans in the attempt to plant new empires. a. Spanish explorations and colonization; b. English explorations and colonization; c. French explorations and colonization; d. Portuguese explorations and colonization.

The work in history in this grade being along the same lines as that of the geography, the two subjects are studied in their relation to each other, more especially during the first few weeks of the term. This applies particularly to the "stories of the Old World typical of the races of mankind." Beginning with the awakening of interest in maritime enterprises about the year 1400, the history of this grade follows the results through the next two centuries. A review of the early history of the world as it was known before this period, and of the limited knowledge of geography and navigation, seems not only advisable but absolutely necessary; and since Portugal was the pioneer country in the work of exploration and colonization, the Portuguese explorers are naturally the first to receive attention, the others being introduced in the order of time.

A portion of the blackboard is reserved for the work in discovery, exploration, etc., and on this is drawn an outline map of the world. As each exploration is studied, the route followed, the country discovered and explored, and the colonies founded are represented on this map.

Occasionally, the topic to be studied is mentioned to the pupils on the day preceding the lesson, with instructions to consult such histories as may be available. By this means a greater variety of facts is brought out than may be obtained from a single text book.

The judgment and reasoning powers are trained by showing the conditions existing at different periods and encouraging the pupils to reflect for themselves upon the natural results of such conditions. Since stories of the childhood of important personages arouse the sympathy of children, such stories are read in class by the pupils or teacher. The few moments before the opening of school are often thus utilized. Such readings not only increase knowledge, but aid in punctuality and discipline.

Poems, such as Butterworth's "Ponce de Leon" and Heman's "Landing of the Pilgrims" supplement the regular instruction and others that are not too long, are learned for recitation. Appropriate illustrations are often used, either as a means of review, or as suggestions for composition.

Anniversaries of important events are used as a means of instruction or review. The many statues which our city contains are objective methods of instruction. The children are encouraged to visit them and obtain what information they can from their inscriptions.

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In the matter of dates, only the most important are taught; and wherever possible, one date is made the central point around which a number of events are grouped. Finally, a general knowledge of the influence of the character, manners, and customs of the early settlers on the later history of our country, is given to the children.

Marion E. Watkins, Class Teacher, P. S. No. 101.

FIFTH YEAR—FIRST HALF.

From this course of study it may be seen that it is possible for the teacher, starting with the Aryan race, to show the westward progress of civilization into Persia, Greece, Rome, the formation of the English nation and the tendency to move still further westward by crossing the Atlantic to America.

Two lessons a week of forty minutes each are assigned to history in our 5 A class. To familiarize the pupils with the physical features of the country under discussion, a geography lesson always preceded a history exercise. Every event studied was located on the map. Pictures were used liberally to aid the children in forming right conceptions of important persons, localities, buildings, dress, etc.

Stories of the domestic life of the people were introduced as often as possible. Child life of the long ago was compared with that of to-day. The important personage of a period was often made the basis of a lesson and a few principal events of the epoch focussed about him. At the close of the lesson, a few pupils were asked to reproduce its subject matter and then the members of the class were encouraged to ask questions. The second lesson of the week consisted of two parts. The first was devoted to a review of the previous lesson and the second comprised the new matter.

At the end of each month, the class was divided into sections. To each was given a certain topic and the children were asked to write brief, connected statements about their particular topics.

During the last month of the term, the entire work of the grade was reviewed. Sometimes certain pupils were asked to form test questions and others were called upon to answer these. Again, a scholar was asked to impersonate an historical character and tell his or her life story. Maps with journeys and voyages indicated were drawn during these reviews.

Of great assistance to the teacher was the class library which contains several books replete with geographical and historical matter, delightfully told. The scholars took the liveliest interest in this feature of the work and the teacher found her instruction impressed and supplemented by this outside reading on the part of the pupils.

Mary A. Murphy, Class Teacher, P. S. No. 73.

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FIFTH YEAR—SECOND HALF.

The study of History in Grade 5 B. may be grouped about two centres. (1). Settlements. (2). Colonial History. I have divided the subject into the following method units:

SETTLEMENTS—(a) The Spaniards explored and settled in the West Indies, South America, Mexico, Florida and New Mexico. (b) The English explored the Atlantic Coast and claimed all the territory under the names of North Virginia and South Virginia. (c) The French explored the interior and named their territory New France. (d) The Dutch named their American territory New Netherlands. This group of subjects can be covered in the first four weeks of the term.

COLONIAL HISTORY—This may be arranged by the order of colonial establishment. This portion of the work covers the second, third, and fourth months of the term. I divided the fifth month between review and Territorial Growth, the latter under the following units: Louisiana Purchase; Florida Purchase; Annexation of Texas; Mexican Cession; Gadsden Purchase; Alaska; East and West Indian Expansion.

The aim of the teacher should be to teach the facts of history, to furnish motives to right living. The object of the pupil should be to study the origin, the character, the growth of the nation. The results to be obtained are the cultivation of the moral sympathies, the quickening of the imagination, development of the memory, aiding of reflection and the control and direction of the will.

The study of United States history should infuse into the minds of American youths the American spirit, a benevolent disposition toward all classes of citizens, a willing obedience to the Constitution and the laws; and a deep and abiding love for the Union and the Star Spangled Banner.

The instruction in History should be brought into organic connection with the study of language; for this reason reading is to be an auxiliary. Recitations of patriotic poems and ballads can be woven in profitably. That geography must aid history is self evident.

Margaret L. McKeon, Class Teacher, P. S. No. 23.

FIFTH YEAR—SECOND HALF.

COURSE OF STUDY—Colonial History: Pioneers within the territory of the present United States. Virginia: Sir Walter Raleigh, Captain John Smith. New York: Henry Hudson, Peter Stuyvesant. Massachusetts: Myles Standish, King Phillip's War. Rhode Island: Roger Williams. Pennsylvania: William Penn. Georgia: Oglethorpe.

Territorial Growth.—Florida: Ponce de Leon. Louisiana: La Salle. Northwest Territory: Daniel Boone. Oregon Territory:

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Captains Gray, Lewis and Clarke. California: Discovery of Gold. Alaska, Hawaii, Cuba, Porto Rico, Philippines.

The work in history is carefully planned by the teacher before being given to the class. The subject matter is divided into topics. The lessons are taught orally in the form of a story, and reproduced by the children in their own language, as an exercise in composition; geography, biography, chronology, literature and drawing are correlated with the lessons in history.

Essentials are impressed upon the memory; non-essentials are introduced merely to excite interest and to promote attention. Pictures of famous men, places, events, etc., are used as aids in teaching the subjects. They help to impress upon the minds of the children the facts taught.

History develops the imagination, stimulates patriotism, and creates in the minds of the pupils a desire to emulate the deeds of famous men.

Annie V. Kielly, Class Teacher, P. S. No. 79.

SIXTH YEAR—FIRST HALF.

COURSE OF STUDY.—(1) Discovery, exploration, conquest and settlement of portions of North America not previously studied, and of South America. Comparison with corresponding settlements and growth of sections of the United States. (2) Intercolonial Wars: Incidentally the contemporaneous Wars, Period between the French and Indian War and the Revolution. (3) Establishment of South American Nations.

AIM.—(1) To make good citizens, give powerful object lessons against vice, promote love of virtue, call forth feelings of patriotism and stimulate national pride. (2) To arouse interest and curiosity; to lead to make individual investigation by means of what has been termed Historical Recreation; to furnish work for the apperceptive powers of pupils; to associate men, deeds, habits, customs, and general conditions by means of the Round Tables.

THE PROBLEM OF TEACHING HISTORY.—(1) "It is to introduce several hundreds or thousands of persons, and several hundreds of events, to an age that knows nothing, except by the power of sympathetic or anticipative imagination of men or of things. (2) To make each person introduce an individual and a real character. (3) To show the connection of cause and effect between great events." (Meiklejohn.)

METHOD.—History in this grade has been treated from the standpoint that history presents an excellent groundwork for some concentration of studies. The minimum time allowance, suggested in Course of Study for history, is one hour per week, but history comes hand in hand with the geography, literature, elocution, composition, dictation, formal reading, spelling, grammar, and through maps with drawing. When the pupil is called upon to write on a

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certain topic, there is opportunity for capitalization, punctuation, composition, spelling, grammar, and writing. Almost every study of the grade reinforces history, and is, in turn, reinforced by history.

The work of the grade laid down in the Course of Study has been divided into four parts; one part of work for each month, and a general review for the fifth month. The first month's work is a vague whole of the entire term's work, being the discovery, exploration, conquest and settlement of portions of North America and South America. The fifth month's work, when finished, should present a complete whole, details having been worked in all along with history proper, and the inter-relation of other studies of the grade.

In Historical Recreation, the questions of suggestions are put by the teacher some days previous. The pupil at his leisure looks up the necessary information independently, and at a certain time, appointed by the teacher, the members of the class write results as found by each.

The Round Table, which can be used in a most interesting manner, follows each period in history. The pupils are called upon to imagine representative men of a certain period sitting around a table. Each pupil selects one and talks for him on subjects suitable to the time and place in which he lived. Pages might be written, if time permitted, on the possibilities and results of this method.

Literature stamps indelibly the memory of French and Indian Wars by the Story of Evangeline, The Last of the Mohicans, Story of King Philip, stories from Parkman's Pioneers, Hildreth's History of the United States, Palfrey's New England, and other works. Elocution finds plenty of subject matter, based on this period in our history, in the poetry and prose of Whittier, Longfellow and Everett, but only in dictation exercises has such been shown in class work.

Many names of places have a historic interest, and are generally treated as topics for recitation. Historic sayings of the wise, great or heroic, also afford subjects for topical recitations.

Geography is so closely interwoven with history that no lesson is complete without map references.

Much European history is incidentally taught from 1492–1776 by means of the Round Table. Dates have been used as the pegs to support association. Pictures, whenever available, have been used to attract pupils and to deepen impressions made by narrative.

In the establishment of the South American Nations Portuguese, Spanish and colonial South America are treated. This gives an opportunity for establishing a bond between the far off times of discovery, exploration, conquest and settlement and the present time.

Mary A. Conlon, Class Teacher P. S. No. 60.

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SIXTH YEAR—FIRST HALF.

In teaching history, the topical method, followed by ample discussion, has been largely employed.

Correlation with reading has been effected by reading stories relating to the grade work, in class and at home. Special topics have been assigned to various pupils for reading and subsequent class discussion. Many of the pupils have had access to outside libraries, and books of reference have been placed at the disposal of the class.

Use has been made of the blackboard for the drawing of maps in colors for the purpose of illustrating, in their order, discoveries, explorations, territory, plans of campaign, and plans of battle.

Map-drawing by the class, with locations and tracings, progressing with the study, has been done.

The object of teaching history has not been so much the study of dates and other abstract points as forces and conditions, and the results which they have caused.

Briefly arranged, the objects have been :—I. The cultivation of the reasoning power. This has been accomplished by making geography the foundation of history. At the start the pupils have been placed in the positions of the European explorers. Knowing the conditions which compelled search for land, they have started out on discovery and have learned how waterways have aided them in explorations which otherwise would have been impossible. Later, they have seen how climate, navigable waters, good harbors, fertile soil, mineral wealth, water-power, forests, useful animals, and other natural resources, have determined colonization. In short, they have been lead to reason that any place, in order to attract a people who shall form a settlement and so lay a foundation for subsequent history, must have those natural advantages which shall support them.

They have observed the boundaries of nations and learned that some geographical feature, such as a mountain range, which makes invasion perilous and defence easy ; a river, which makes a boundary dispute impossible, and along which defences upon which naturally strong sites can be erected ; or climatic conditions, affecting pursuits or tastes, determines their confines.

In the study of campaigns they have continued this kind of thought and found why physical features determined locations and why campaigns were directed against certain points and not against others.

Another means has been in discriminations by comparisons of events and conditions elsewhere, noting similarities and dissimilarities in climate, modes of government, periods, and motives, with their causes and effects. This has been employed in the case of Spanish South America when treated with Portuguese South

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America and with North America, and it has been broadened so that it covers the governments and existing conditions in those countries.

II. The lesson of history—how the present has resulted from the past, and how the future will result from the present. The method explaining how the present has resulted from the past has been shown in the above paragraph. How the future will be determined from the present has been improved as a means of inspiring patriotism.

This has been accomplished principally by comparison of the motives in settlement and subsequent government as employed by England, France and Spain. Love of country lies neither in the hatred of a foreign power nor in blindness to our own errors. For this reason contrasts have been careful but applications positive. The Cuban war, fresh in the minds of the class, has been associated as a means of giving reality to similar conditions centuries old.

III. Truth in matters of history and accurate judgments concerning them.

In the treatment of events, it has been the plan to present fully but briefly both sides of important questions. As a result, the judgments formed concerning the Colonial war, the wars for South American independence, and the Mexican war, have been unbiased, yet are first opinions and universally just.

IV. The last important object has been to secure general information regarding the past so that it shall no longer remain an unknown from which no pleasure may be wrung. This has resulted incidentally while securing the more salient points and has been fixed in the memory by dictation, for purposes of study and reference, of tabulated statements at the conclusion of each important subdivision.

A scrap-book having contributions from the class upon current history and supplemental information relative to the grade work has been found of much value in inducing search and arousing interest.

Many ways of error-correction have suggested themselves, but a single example will illustrate the one used with most satisfactory results. The corrected statement has been written in this form upon the blackboard:

"Jamestown was settled in 1600 SEVEN."

A few oral, followed by a few written repetitions of this have in most instances been sufficient. It appears that sight, hearing and attention are appealed to by this device. The same scheme has been applied in making corrections regarding names and occurrences.

The dates only of important events and those having subsequent history dependent upon them have been most dwelt upon and

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memorized by thorough drill. Other dates have been simply comparative thus avoiding confusion.

Adelbert B. Hunt, Class Teacher, P. S. No. 8.

SIXTH YEAR—SECOND HALF.

The outline in history for grade 6 B, as given in the course of study, covers the time from the end of the French and Indian War, through the American Revolution, the "critical period" from 1783 to 1788 following, and the administrations of Washington, John Adams, Jefferson, and Madison to the end of the War of 1812.

In this class, the practice has been—to review enough of the preceding grade to show the relative position, strength, and importance of the different peoples inhabiting this continent; their intercourse with one another and their conflicting interests, in order that the reasons for their parts in the conflict to follow may be clearly understood.

Following this a brief sketch of English government at home and in relation to the colonies is undertaken and particular emphasis laid upon the prevailing ideas of the time, that colonies merely existed, for the aggrandisement and enrichment of the empire. The narrow commercial policy which resulted from this notion was directly the cause of, if not the occasion for the Revolution.

Next are considered the various issues along this line which were an outcome of the preceding conflict. Beginning with the attempts to enforce commercial restrictions and raise a revenue among the colonies to replenish the depleted treasury of England, the class is led to further efforts of the British government to exert a supreme authority in America; and finally those acts of retribution and retaliation which eventually precipitated the conflict. The fact that the war was caused by an accumulation of grievances is thoroughly dwelt upon.

In studying the beginnings, the process by which all the colonies were brought to act more or less in concert, is given in the natural sequence of cause and effect.

The campaigns are treated first as wholes, as aiming at a particular end to be gained, and then in parts, the various engagements being studied somewhat in detail, showing the positions of the combatants, the tactics employed and the reasons for success or failure. The moral effect on both soldiers and people and the general effect on the campaign are also noted.

In the study of the "critical period," the boundaries of the new country as adjusted by the treaty are carefully taken up, then the condition of the people, the animosity between the states, the drifting toward anarchy and lawlessness, and finally those acts of violence which showed clearly the need for a strong central government.

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Next are considered the Federal Convention and its proceedings (very generally), the Constitution and its ratification by the States, the election of Washington and the establishment of the new government. The attempt is made to treat these matters in such a way as to show why a republic was decided upon.

In studying the various events of the Administration, the relation of cause to effect is aimed at, the effort being to have the pupil see why and how one thing naturally brought about another; how the necessity compelled the activity and shaped the result.

In the War of 1812, the causes are first clearly set forth; then the campaigns and engagements are treated, and finally the outcome and the reasons for it.

Thoughout all the work, the human element is emphasized, the pupils being led to understand that men acted in previous times much the same as we should act under similiar circumstances. Enough detail is given intermingled with anecdote and story, to make the study realistic; and the pupils are encouraged to supplement the text-book with reading-matter from the class library.

The general method has been to first furnish the pupils with an outline of the work to be covered and to assign lessons from the text in conformity with this, and then to lead them by conversations to discover the reasons and think out the results.

A part of the time each week is given to this oral instruction and at the end of the week a written exercise is required of each pupil. In this he attempts to show what he has gathered from the oral work, his reading and the text-book.

Maps and pictures are freely used to illustrate the work, the former being drawn upon the blackboard and copied by the pupil. Upon those maps are indicated the movements of the opposing forces; and brief statements are made of events which have made certain places and localities noted. The pictures are gathered from many sources and are distributed in the class for inspection or they are placed where all may see them.

As far as possible, the influence of topography, climate, and graphical position, are correlated as causes aiding or preventing certain results; and the life and occupations of the people, as so related, are considered for the same purpose.

Much attention is given to the cultivation of the faculties for balancing right and wrong and the development of the reasoning powers, in which lie the chief value of history. Finally, to sum up and aid in leaving a lasting impression, the principal events are memorized in chronological order.

The correction of the written exercises is done by the pupils themselves with the assistance of the teacher.

Wm. A. Chatfield, Class Teacher, P. S. No. 8.

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SIXTH YEAR—SECOND HALF.

The work in history for the second half of the sixth year covers the period between the revolt of the American Colonies against England, and the close of the War of 1812; including the Administrations of George Washington, John Adams, Thomas Jefferson and James Madison. It also covers the contemporaneous history of England, France and Spain, especially as influencing events on this side of the Atlantic during these periods; and the organization and form of government of the United States.

Results were obtained in this manner. The lessons having been carefully assigned, studied, and discussed, the pupils were questioned with a view to bringing out the important points.

Questions were then written upon the blackboard, the pupils answering them to the best of their ability, illustrating by pictures wherever they saw fit, and drawing maps to show great campaigns or to locate the places where important battles were fought.

The illustration by pictures is, in some cases, the work of the pupil's imagination, but more often copies of pictures obtained from various sources.

By teaching history we hope to implant and foster the love of country—in a word, to help our children grow into patriotic citizens. By studying the lives of our great and noble men, we hope to inculcate a desire to do great and worthy deeds. We try to show that one ignoble act of those in power may change the fate of nations, and generations of people.

The term's work has been divided into nineteen parts, each part comprising the work of three lessons given during one week of the term.

The correlation of various subjects with the one especially considered, is inevitable as well as helpful, in the teaching of history. In the map work, the twin subjects, history and geography, are drawn even more closely together, giving the children an accurate idea of the geography of the United States, and of routes of travel by land and by sea.

Henrietta Fishblatt, Class Teacher, P S. No. 93.

SEVENTH YEAR—FIRST HALF.

COURSE OF STUDY.—History of the United States from the close of the War of 1812 through the Civil War. Constitution of the United States; incidentally, comparisons of the National Government with the State Government and with Government of England.

In teaching the history of this grade, the events which naturally fall together are grouped, so that, in place of having a catalogue of disconnected facts, we have a recital of events, in which one causes or leads to the other. For instance, I would explain the object of a Tariff, then the Tariff law, and show how the latter

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caused the Nullification Trouble, and how the Nullification Trouble was settled by the Compromise of 1833.

By a judicious mingling of oral and book work, I find that very excellent results are obtained. When a lesson is assigned, it is briefly explained so that the child will have some idea of what the topic is about, when he goes to his home and uses his text-book. The next day, he tells what he has learned, being assisted and corrected by the class and myself. Then I bring out by appropriate questions and illustrations, the relation between this and other events which follow, having previously explained the event or events which led to the lesson of the day.

Occasionally, I give out for home work a question which none can answer without investigation, and offer, as an incentive, a perfect mark to the one who brings in the correct answer. This leads to a discussion of the question among the children, and causes them to look up other histories which many of them happen to have at home.

From the study of history in Grade 7A the children see that there are two sides to every question, and that ultimately the right triumphs over the wrong. They learn that the good God does not suffer the oppressed to be wronged always. The minds of the young are enriched by the precious lessons of patriotism. The judgment is developed, for it is necessary to use the reasoning powers to understand the history taught in this grade. In short, the lessons and warnings learned from the lives and actions of the men of the period, cannot be overestimated.

P. F. O'Shea, Class Teacher P. S. No. 23.

SEVENTH YEAR—FIRST HALF.

The course of study outlined for the Seventh year, First half, includes, 1 st—The history of the United States from the close of the War of 1812 through the Civil War. 2nd—The Constitution of the United States. 3d—Comparisons of the National Government with the State Government and with the Government of England.

The period beginning in 1815, and ending in 1865 witnessed the wonderful westward expansion of the United States and the consequent disputes with regard to the extension of slavery. These disputes, together with quarrels arising from the widely different economic conditions of the North and the South, eventually led to Civil War and to the establishment of the Union on a firmer and more enduring basis. Thus the Civil War is the culmination of the events of this period, which are to be considered in their relation to this great struggle.

In dealing with this period, it has been my aim not to reduce the study to a mere chronology, but to present it as a story of the growth of the nation in intelligence, wealth, population and area,

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and to show the relation of cause and effect as exhibited in the events of these years.

Naturally, a course in history could not be pursued without utilizing the student's knowledge of geography; and skill is developed in sketching and preparing the various maps required to illustrate different passages of history.

Having selected a topic such as Secession, the subject is discussed and explained in the class room, and is given as a lesson. The pupil then makes researches in his text-books and gathers information from any other available source, after which the matter is discussed with the teacher. Then an essay is written on the subject. These are continued throughout the term.

I have occasionally treated the subject from a biographical standpoint. The lives of Andrew Jackson, Abraham Lincoln, and others, are useful as histories of their times and interesting withal.

Thomas S. Constantine, Class Teacher P. S. No. 154.

SEVENTH YEAR—SECOND HALF.

COURSE OF STUDY.—1. History of the United States since the Civil War. 2. Selected Topics. 3. Civil Government. 4. Recent European and Asiatic History. 5. Aristocratic Governments.

LENGTH OF TERM.—Twenty weeks; minimum time allowed per week, one hour; time used by grade teacher, one and a half hours, divided into three periods of thirty minutes each.

TREATMENT OF SUBJECT.—Home study or original research assigned for each period; short talks by teacher; recitations both oral and written with blackboard analysis and map-drawing as accessories.

HISTORY OF THE U. S. SINCE THE CIVIL WAR.—Under this head each administration is taken up and treated in chronological order. A topical analysis is made by the teacher and placed upon the blackboard. Then the salient features of the administration are selected, and their relation to, and connection with, previous or later administrations and particularly with current topics or events deduced by questioning. Correlation with English is sought in the literary expression obtained in both oral and written work, grammatical English being insisted upon and answers required to consist of full and complete thought sentences. Wherever and whenever possible, correlation with geography and co-ordination with European—especially English—history are sought and obtained. Intensive study of any particular topic is not attempted. Time devoted, seven weeks.

SELECTED TOPICS IN AMERICAN HISTORY.—This is probably the most important of the term's work, and as it is to be studied intensively, rather than extensively, three or four main topics effecting either the past or the present of the body politis, are selected. The subject is taken up topically with blackboard analysis and lectures by the teacher; and, besides the use of class text-books, the

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teacher's reference-books, and class and other libraries are resorted to for information. Special attention is paid to the causes, the arguments advanced for and against the subject, the prominent men connected therewith, with their mistakes and failures serving as suggestive warnings, and the results. The pupils are taught to assemble a mass of historical material obtained largely by original research, to select only the essential and reject the immaterial and then to form their own generalizations. In this manner, judgment, the main aim of history and invaluable as a mental stimulus, is obtained and strengthened, and the pupil prepared for the methods in vogue in the higher education of the high school and college. Time devoted, six weeks,

CIVIL GOVERNMENT:—The intensive study of Civil Government being reserved for the high school and the college, the object of the elementary school is to give an insight into the workings of the City, State and National governments so as to prepare the future citizen to exercise intelligently his rights and duties as a member of the community. The work largely devolves upon and is developed by the teacher from blackboard analysis, the text-books furnished being used merely as collateral reading. The machinery of the State government is studied by comparing it with the National government, resemblances and differences being drawn from the pupils. The local government is taught as an object lesson by calling the pupil's attention to the systems and manners of voting at the polls whenever elections occur. Civil government is co-ordinated at all times with History. Time devoted three weeks.

RECENT EUROPEAN AND ASIATIC HISTORY:—As this subject is given without text-books it will necessarily be by means of short talks by the teacher with note-taking by the pupils and from blackboard analysis. The word "recent" has such an elastic interpretation, and the time for the treatment of the subject is so short, that I take it to mean what has occurred within the past ten or fifteen years, and then only such movements as may have been national in character and materially effected these continents. Current events form a most essential part of this topic. Time devoted three weeks.

FORMS OF ARISTOCRATIC GOVERNMENTS:—Aristocratic governments or governments where the power, conferred by wealth or heredity, is vested in a privileged few, in our age are few and as they teach us no lesson except possibly to beware of such forms in our future history, a study of them seems of little value. The Boer Republic of Transvaal is probably the only government of this kind now in existence, and beyond a cursory glance at the aristocratic governments of ancient history and this 19th century aristocracy, the time is devoted to a study of the Nicolai Affair and Johnson's apparent attempt to found such a government immediately following our Civil War. Time devoted one week.

Elijah Jenks, Class Teacher, P. S. No. 154

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SEVENTH YEAR—SECOND HALF.

The Course prescribed for the study of this grade is as follows: I. Review, selected topics. II. History of United States since the Civil War. III. Brief summary of the recent history of European and Asiatic nations. IV. Civil Government. V. Forms of Aristocratic Government.

The subjects chosen for review are those which have the most important bearing on affairs of the present day and whose results may reach into the future. Among these may be taken the Monroe Doctrine, Tariff question, and Slavery disputes, culminating in the Civil War. The administrations have been taken up in regular order, the events analyzed and their relative importance considered together with the territorial and material growth of the country. That the pupils may receive a clear idea of the relations, political and social, of foreign nations, the summary includes the founding of the French Republic, the unification of the German Empire, the triple alliance and the partition of China, and the seizure of African territory.

Civil government includes the forms of government, relation of State and National government, study of the Constitution, laws governing elections, and the various divisions of the municipal government. In teaching aristocratic governments, accounts have been given of the most prominent aristocracies of both ancient and modern times.

Two or three days before giving the lesson, an outline of the subject to be studied is placed on the blackboard and also names of books in the class library containing reference to the topic, together with the title of any well known poem or short story relating to it. The pupils are required to consult the histories and biographical dictionary belonging to the class, and they are encouraged to collect from magazines and newspapers, articles and pictures illustrative of the subject. Each child receives a slip of paper on which to write some interesting fact gathered from her reading.

When giving the lesson, each point in the topical outline is taken separately, explained and elaborated; words whose significance is not fully understood are analyzed and their meaning shown. Next the items collected by the pupils are read and discussed. The judgment of the children is then tested as to the relative importance of the different items. When the lesson is thoroughly understood, a copy of the analysis is made in the note books for future reference and study.

The pupils become interested in the study of History and take great pride in collecting information of value to the class. Memory is assisted by the association of this subject with the others of the grade. History is closely correlated with geography and literature and the pupil's language is much improved by consulting and studying good authors.

Grace E. Grannatt, Class Teacher, P S. No. 53.

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Arithmetic.

INTRODUCTION.

WHAT IS IMPORTANT IN PRIMARY ARITHMETIC? *

By Amos W. Farnshaw, Teacher of Number Methods in the Oswego State Normal and Training School.

1. *That which gives clear concepts of the function of number, is important in Primary Arithmetic.*

The *how many* of the unit of measure is Number.

Any quantity used as a standard of reference is a unit of measure.

A unit of measure, to be of practical use in society, must have a fixed quantitative value known and appreciated by all who use it. That a garden is twenty-five paces long and fifteen paces wide, gives only approximate knowledge of the dimensions of the garden, because the unit of measure, *one pace*, has not a fixed quantitative value, but is determined each time by the judgment of the person using it. That a garden is twenty-five yards long, and fifteen yards wide, gives data for a definite knowledge of the area of the garden, since the unit of measure, *one yard*, has a fixed quantitative value.

A knowledge of any material object or of any commercial transaction, cannot be gained without the aid of Number. Unmeasured quantities (*lines*, *surfaces*, *solids*, *angles*, *weight*, *time*, *pecuniary value*, *etc.*), become known only by comparing them with certain fixed units of measure. The result of each comparison is a ratio,—result of a measured quantity to a (related) unit of measure. (A surface and a surface only, is the measure of surface; weight and weight only, is the measure of weight; etc.) Every ratio is expressed by a number.

The function of number is to express the ratio of a measured quantity to a related unit of measure.

II. *That which gives clear concepts of exact measurement, is important in Primary Arithmetic.*

Arithmetic has been called the science of exact measurement.

Measurement implies—(1). Something to be measured. (2). Necessity for measurement. (3). A unit of measure.

Two elements enter into exact measurement: The numerical and the quantitative. Each element is expressed in every unit of

* This paper was written for New York Teachers' Monograph.

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measure. For example, *one quart* (of cherries): The quantitative element is expressed by the quantity, *quart*, and the numerical element by the number, *one*.

Clear concepts of exact measurement are based on a definite knowledge of standard units, namely: *gallon*, *bushel*, *yard*, *pound*, *day*, etc.; and of units derived from standard units, such as *quart*, *peck*, *foot*, *ounce*, *hour*, etc. These units should be used in problems in which it is apparent that something is to be measured, and that there is a necessity for exact measurement.

No definite knowledge can be gained from the use of indefinite units of measure, such as *cupful*, *handful*, *piece*, *load*, *moment*, etc. The *measure* of a pie or an apple is an unfortunate *quantity* to be considered in Primary Arithmetic.

The question: "How many are four and five?" has some value, but its value is increased when a quantitative element is introduced: "How many are four pounds and five pounds?" The value of the question is still greater when the measuring elements are used to determine the *how much* of a given material: "How many are four pounds of raisins and five pounds of raisins?" The question reaches its greatest value when it is incorporated in a practical business problem: "Mr. Worts, the baker, used four pounds of raisins on Monday and five pounds on Tuesday. How many pounds of raisins did he use in the two days?"

III. *That which awakens interest in the use of numbers is important in Primary Arithmetic.*

There must be something definitely stated and something definite to find out, to awaken interest in the use of Numbers. Given the problem (provided it may be called a problem), "If a boy had thirteen cents, and should give away five, how many cents would he have left?" the conditions of the problem are hypothetically stated. The boy (what boy is not known) may not have had thirteen cents, and may not have given five away. Nor is any reason made known for his possible generosity. Nothing is definitely stated, and nothing definite can be found out. And yet such problems are common in Primary Arithmetics. Take the same number fact (thirteen cents less five cents equal eight cents), and re-cast the problem so that it will say: "Neil had thirteen cents, and gave five to his little brother to buy an orange. How many cents had he then?" It is apparent that the second wording commands more interest than the first wording.

Again, "Suppose I have fifty dollars, and give thirty dollars for a suit of clothes. How many dollars do I have left?" First, this is a *supposed* case. Second, each verb asserts present action, which could not be true in a real business affair. Let the problem have the ring of genuineness, then note the effect: "I had fifty dollars, and gave thirty dollars for a suit of clothes. How much money did I then have left?"

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Problems are often introduced by the words: "What will be?" "What would be?" etc. "If," "Suppose," "What would be?" and other hypothetical, suppositional, and conditional expressions which deprive Primary Arithmetic of its virtue. There is a place for fiction, but its place is not in Primary Arithmetic.

IV. *That which gives skill in the use of number is important in Primary Arithmetic.*

When the child has gained a fair degree of accuracy and celerity *in the use of number*, he may be considered skilled. But too often he is not *skilled*, because he is not ready in *the use* of Number. His work has been in the abstract. He has dealt with numerical elements almost to the exclusion of quantitative elements. And when quantitative elements have been used, there has been so little (if any) application in his "drill" work, that the office of Number has been overlooked. The following illustrates helpful "drill" work:

How much will seven quarts of cherries cost at four cents a quart? at seven cents a quart? at nine cents? at five cents? eight cents? six cents?

What is the cost of six bananas at twenty cents per dozen? What is the cost of nine bananas? of three bananas?

The legal interest on one hundred dollars for one year (in New York State) is six dollars. What is the interest on four hundred dollars? six hundred dollars? eight hundred dollars? five hundred dollars? seven hundred dollars? nine hundred dollars? fifty dollars? seventy-five dollars? twenty-five dollars? three hundred and fifty dollars? two hundred twenty-five dollars? three hundred seventy-five dollars?

Reverse the work for "drill" on division.

V. *That which cultivates a sense of "the fitness of things" is important in Primary Arithmetic.*

Authors put into primary arithmetics such problems as the following:

1. "How much will two and one-fifth yards of ribbon cost at fifteen cents per yard?"

2. "I bought one-seventh of a pound of candy at twenty cents a pound. How much did my purchase cost me?"

3. "From a can containing five gallons of milk, two and one-third gallons were used. How much milk remained in the can?"

4. "When strawberries were selling for two and five-ninth dollars per crate, how much did Mr. Grant receive for nine crates of strawberries?"

In the foregoing problems the author has no regard for the different scales of denominate numbers. With our measures it is impossible to measure *one-fifth yard*, *one-seventh pound* and *one-*

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third gallon. Nor do we set such prices as *five-ninth dollars.* Such problems furnish good fraction "drill," but they do violence to the sense of "the fitness of measures."

Again: "Mr. Bingham took twenty bags of wheat to market. Each bag held three bushels. How many bushels did his load contain?" This problem has its air of reasonableness. But a moment's thought tells us that a grain bag holds only two and one-half bushels instead of three bushels. And only two bushels of wheat are usually put into one bag, because of its superior weight—one hundred twenty pounds being all one man can well handle. Granted that each bag held three bushels, then twenty bags held sixty bushels. One bushel of wheat weighs sixty pounds. Sixty bushels weigh three thousand six hundred pounds,—a larger load than the average team is able to draw on an ordinary country road.

VI. *That which keeps pace with the child's intellectual development is important in Primary Arithmetic.*

In Primary Arithmetic (and in higher grades as well) only number facts seem to be considered. The language of the problems does not always conform to grammatical rules, and rhetorical errors are not infrequent. The material to which number facts are applied is often beyond the child's comprehension. Unfamiliar and difficult words which obscure the thought are introduced. Problems occur that involve too large numbers, and two or more answers before the child is able to determine one answer with ease. Problems should begin with the child's environment, and deal with material that is familiar and of interest to him. Then as his horizon enlarges, his problems may deal with material more remote; technical terms may be introduced, larger numbers may be used, and the conditions of the problems may be more involved. The language and material, as well as number facts, should be graded to the child's capacity. A more rational use of Numbers would secure better results with less expenditure of nerve power.

VII. *That which cultivates a sense of honor is important in Primary Arithmetic.*

The writer has heard primary teachers use questionable problems in review work, of which the following are illustrations:

"Harold had seventeen marbles, and won five more. How many marbles had he then?"

"Andrew shot five sparrows and three waxwings. How many birds did he kill?"

"Jay had nine cents, and found five more. How much money had he then?"

Primary Arithmetic cannot give formal lessons on Morals, neither can it be correlated successfully with Nature Study; but it can be so taught that it shall not place a stumbling-block in the way of any other subject of instruction.

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GRADE 1 A—FIRST YEAR—FIRST HALF.

Scope of work. Adding, subtracting, multiplying, and dividing numbers from one to ten inclusive. Partitive division without a remainder. Fractions ½ of multiples of two. Measures—pint and quart. Money—cent and dime.

The larger aim of this course is to so relate the child to the world of magnitude that he attain to it through his own proper person by natural means. The more immediate aim is to give the child a good working knowledge of numbers through ten before advancing him to a higher grade.

In the study of these numbers the order observed has been as follows:

I.—Perception of the number—Synthesis.

II.—Analysis of the number.

III.—Drill upon facts discovered by analysis.

IV.—Comparison with smaller numbers.

The general scheme in presenting the numbers to the child is

(*a*) Through perception of quantity and number, through the use of objects visible and tactual, through the imagination and the memory.

(*b*) The perception of objects as constant in quantity to introduce grouping.

(*c*) Comparison of quantities, combinations of numbers.

(*d*) Recognition of symbols presented orally through the concrete, problems in form of story—child answering orally then using blackboard and finally paper. Lastly, oral and written abstract problems.

The concrete work grows less and the abstract more about the time of the study of the number "6."

The following is a suggestive lesson on the number "4."

	Teacher's Work.	Child's Work.
Perception of "4" as a whole.	Child given 3 objects and 1 more object. Told he now has 4 objects.	Perception of 4 synthetically from 3, then as a whole.
	Name 4 objects in room.	Table has 4 legs.
	Name animals having 4 feet.	Cat has 4 feet.
	Objects with 4 wheels.	Carriage has 4 wheels.
Presentation.	Child given 4 objects to discover combinations.	3 and 1, 2 and 2, etc.
Reinforcement through new presentation and drill.	Visual drill—Two numbers written on blackboard and erased.	Reproduction of combinations with answer.
	Concrete problem presented in form of domino for one instant only.	Reproduction on blackboard in the exact color and position of spots as they appeared on domino. Problem also written in figures.
	Four objects presented.	Eyes closed.
	Certain objects hidden.	Eyes opened.
	Tell number of objects hidden.	Answer.

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Comparison with smaller numbers.	Would you rather have 3 candies or 4? Why?	4 is more than 3.
	Would you rather take 3 spoonfuls of medicine or 4? Why?	3 is less than 4.
Motor drill.	Make dominoes telling all stories about 4.	

This work is correlated with the language work of the grade to a very large extent, and less directly with nature study.

Special points taken up throughout the term.

The idea of more or less is introduced as soon as the child reaches number "3." When numbers through "5" have been studied, pint and quart are taken up as the first exact quantitative measurement. The minus sign (without name) is also introduced about this time, the sign being easier for the child than the written expression. The plus sign is not used as the child is able to express the written work in addition without its aid. After the mastery of the number "6" some tabular forms of expression are presented.

When the child is able to read and write numbers correctly to 7, dictation of figures is begun. Numbers above "6" are taught through the grouping of those already familiar to the child as (3 and 4) 7 and 1 more. With the study of "8," the idea of one-half is taught through partition of wholes. About this time also the idea of multiplication is brought out, the child using the sign X which he calls "times." Written problems in partitive division are not given until the study of the number "10." The dime is also taken up in connection with 10.

Method of correcting errors—In the abstract problems, the child is given the concrete by which to correct his own errors.

Ellen M. Phillips, P. S. No. 58.

FIRST YEAR—SECOND HALF.

1. Splints and other objects. Inch, foot, yard, dozen, dollars $\frac{1}{4}$ dollar, $\frac{1}{2}$ dollar.

Reading and writing numbers: Through two places.

ORAL AND WRITTEN.

2. Adding, subtracting, multiplying and dividing numbers to and including 20; no remainder in division.

Fractions: $\frac{1}{2}$ and $\frac{1}{4}$ of multiples of 2 and 4, respectively.

New facts presented in the concrete using familiar objects that tend to excite attention and interest.

The child draws on her previous knowledge in forming a new combination of numbers whenever practicable.

Number work is correlated with language to that extent that the children are required to express their thoughts of the numbers in correct English.

Number work is frequently correlated with observation and nature study.

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Children will tell of animate and inanimate nature in their number stories.

Abstract number is used as a rapid drill to fix the particular combination in the mind.

Practical problems in the use of money; value of fractions applied to familiar objects are carefully considered.

Rachel Cohen, Class Teacher, P. S. No. 13.

SECOND YEAR—FIRST HALF.

Addition: The sum of addends not to exceed 100.

Subtraction: Finding the difference between numbers below 100.

Multiplication: Products not to exceed 100.

Division: Dividends not to exceed 100, the divisor not to exceed 6; no carrying, no remainder.

Fractions: $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{4}$ of multiplies of 2, 3 and 4, respectively.

METHODS OF INSTRUCTION:—Numbers are dealt with analytically as concrete wholes. A great variety of common objects are used and the child soon learns that anything tangible can be counted, and is thus enabled to free the mind from entire dependence upon concrete objects, and may proceed to the abstract with some understanding.

The combinations for addition are taught, first concretely and then abstractly for rapidity and accuracy.

The simple ones are learned and then the more difficult ones. Those above nineteen are taught in decades. As, $9 + 8 = 17$ being known, $19 + 8 = 27$ can be easily learned; and the child will soon recognize the fact, that the unit figure remains the same, and only the tens or hundreds place changes, or as far as one desires to carry it on. He will be able to discover the answers to the higher decades himself if he has the initial step firmly fixed in his mind.

METHODS OF PRESENTATION.

Number work is presented concretely until pupils are able to deal with it abstractly. Practical examples are used, and can be made interesting language lessons. They lead the child to think and reason for himself. In giving explanations he must find words in which to express his meaning.

METHODS OF DEVELOPMENT.

Proceed from the known to the unknown. Following this maxim, previous knowledge is recalled and is made the basis for acquiring new knowledge.

Subtraction, multiplication, and division are developed concretely as far as practicable. The difficulties of each case are pointed out and explained until made perfectly clear to the pupils. As in subtraction, it is impossible to take away more than one has.

For fractions relations and comparisons must be considered.

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Multiplication is shown as a short method of adding.

Division is a cutting or dividing of wholes. Here relation of parts to each other and to the whole may be considered.

CORRELATION.

Arithmetic may be correlated with Nature, by the use of practical examples; with Drawing, by the formation of symmetrical figures, and spacing and arrangement of work; with Language, by the repetition and explanations of practical work given orally, by leading the pupil to discover every fact, process, and generalization for himself and then to state what he has discovered in concise language.

Annie E. Gibbs, Class Teacher, P. S. No. 62.

SECOND YEAR.—SECOND HALF.

OUTLINE OF GRADE WORK.

Gill, pint, quart, gallon, square inch, square foot.

ORAL.

Adding, subtracting, multiplying and dividing numbers to and including 50; neither multiplier nor divisor to exceed 10; no carrying in multiplication or division, but there may be a remainder in division.

Fractions: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$ of multiples of 2, 3, 4, 5 respectively.

WRITTEN.

Addition: The sum of addends not to exceed 1,000.

Subtraction: The difference between numbers below 1,000.

Multiplication: Products shall not exceed 1,000.

Division: Dividend not to exceed 1,000, divisor not to exceed 10, no carrying, but there may be a remainder.

Fractions: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$ and $\frac{1}{5}$ of multiples of 2, 3, 4 and 5 respectively.

The new addition, subtraction, multiplication and division tables are developed one statement at a time, before being placed upon the blackboard. If $7 \times 6 = 42$ is the statement to be taught, the children are shown seven groups of six articles each, or they place seven 6's in a column and add them until they see that multiplication is a short method of addition. Division may, in a similar way, be shown to be a short method of subtraction. A free use is made of small objects in all this introductory work. The written work is based upon and follows the teaching of the tables and the oral work. Mental problems involving smaller numbers precede written questions with larger numbers.

All measures used are taught by actual measurement of various substances.

Fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$ and $\frac{1}{5}$ are shown by the division of a whole into the various parts. Circular or spherical objects are employed for this purpose, as they show the incompleteness of a fractional part more clearly than other shapes.

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Arithmetic may be connected with Nature Study by asking such questions as "How many petals are there in 45 apple blossoms?" "How many horses would be needed to wear 80 horseshoes?"

Arithmetic is also made a language lesson as pupils give explanation of their work and occasionally form their own problems. The teacher sometimes places upon the blackboard several numbers followed by a sign and a single number, as: 49, 84, 67, 35 — 8. The pupil is then expected to select a number and give a complete and original statement corresponding with the sign used, *e. g.* "There were 49 birds on the tree, 8 flew away. There are 41 birds left." The sign and last number are frequently and quietly changed by the teacher and the children alter their statements accordingly.

Emma Edwards, Class Teacher, P. S. No. 69.

THIRD YEAR—FIRST HALF.

Addition: The sum of addends not to exceed 10,000; number of addends not to exceed 6; $ and cts.

Subtraction: The difference between numbers below 10,000; $ and cts.

Multiplication: Products not to exceed 10,000; $ or cts.

Division: Dividends not to exceed 10,000, the divisor not to exceed 10; with carrying and remainder; dividend $ or cts.

Very simple written exercises in adding, subtracting and multiplying amounts in Federal money.

Fractions: $\frac{2}{3}$, $\frac{1}{5}$ of multiples of 3 and 5, respectively.

Review of preceding grades.

In all the arithmetic of the Third Year, First Half, each new lesson is introduced by definite concrete work combined with mental work and followed by board and desk work.

Board work is conducted in the following manner: As many children as may be accommodated are sent to the board, while the others observe and after work is finished, indicate or correct errors. At this and all other times, the children are encouraged to ask questions relative to any part of the lesson they do not understand.

A list of deficient children is kept, errors noted beside their names and a thorough explanatory drill given on weak points.

Usually when at desk work one of these deficient children is called upon to read his answer. He is then sent to the board to explain. This guards against mechanical routine and if the child is timid helps to give him self-reliance.

This method is continued throughout the term.

Every Friday there is a weekly written review. All papers are examined and incorrect examples indicated by a mark thus *v*.

Just what the error is, is not shown; that is left for the child to discover as the problem is worked on the board.

Papers are collected, dated and reserved.

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After each rule is thoroughly understood, wherever possible, two or more rules are combined in the same example.

As new words occur such as minuend, product, etc., they are written on the board and form a part of the regular spelling lesson of the day.

All corrections in language are made after the child has finished his explanation.

Notation—The notation of this grade is simply a continuation of the work of the second year with the addition of one place.

To overcome difficulties, notation should be taught concretely using bundles and single sticks. This is the only means by which the child can properly understand the relative value of each place in each period, the knowledge of which is absolutely necessary in order to deal intelligently with the work of the grade. For this reason, a rapid review is given using the bundles and single sticks, with much drill in the number of units in one ten, the number of tens in one hundred, etc. The child is led to see that 50, or 75, requires as many places in thousands period, as in units period, and that any place for which nothing is given, nothing is required.

Dry Measure—Materials used are sand, measures and toy-money.

Attention is first directed to the use and size of the quart measure. By actual measurement the child discovers how many quarts make a small measure. This statement he writes on the board while the class write it in books. Questions then follow on the comparative size of the two. What part one is of the other and in connection with this simple mental problems.

Federal Money—The children now buy and sell, using the sand and toy-money and exchanging one for the other. The buyer or seller writes on the board, while the class write on paper, the purchase and the amount of the bill.

Attention is called to correct measurements not only for the intellectual but for the ethical value.

The peck, bushel and cubic inches in a gallon are all treated in the same manner, the class constructing the one inch cubes by which the contents of the gallon is measured.

When handling toy money, the child is led into an orderly arrangement of the bills and coins in the money drawer by first putting all into one or two compartments and then showing how much more quickly change can be made, with the money of different values in different compartments. The money-drawer is simply five boxes so arranged as to represent two places for cents and three places for dollars. As soon as the child thoroughly understands the need of this arrangement, he has been taught the most important step in the writing and reading of dollars and cents. Cents to occupy the first box or compartment, dimes the second; single dollars to occupy the first compartment on the dollars' side, ten dollar bills the second, hundred dollar bills the third.

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The class is then tested, as to where they would place certain bills and coins, as $50, $4, 1c., etc., and the first board lesson in writing dollars or cents is simply a test as to the relative value of each place. If the child was told to put 7 in the box representing hundreds of dollars and 1 in the box representing units of dollars, the child would write $701 nothing being given for the second place. Sometimes these boxes are separated by a marble or a nut of some kind to represent the cent point.

After a short time, these little objective helps are put away and only brought forth when needed.

Addition—In addition the child adds all the cents, changes them into dimes and cents, places the cents under cents, adds the dimes to the dimes in the next place. Dimes and dollars are treated in the same manner.

Subtraction—The method used in subtraction is that of taking from one in ten's place, and adding the remainder to the minuend in unit's place. Ten's minuend is now one less. If naught occupies the place in ten's minuend, he takes the unit from one dollar and has left tens and units.

Much drill is given in practical examples; in buying and selling and in finding the difference in the length of days.

Multiplication.—The first work in multiplication is the building up of the tables. This is done by means of a series of oral questions, so presented that the result or answer given forms a part of the multiplication table and is written in table form.

After the formation of the table, follows a drill on the difficult points. The child is then led to form his own mental questions, reasoning out his answers in his own way. If his way is a good one it is accepted, if not he is corrected and led into another process of reasoning.

When multiplying by numbers ending in naught, the child is taught to separate the naughts from the other numbers by a vertical line indicating that the numbers have been divided by 10 or 100 as the case may be.

The first step in multiplying by two figures, is to analyze the multiplier. If the multiplier is 69, the child first multiplies by 9 and then by 60.

In addition to the practical examples, very simple examples in mensuration are also given.

Division.—If the early exercises in notation, addition, etc., have been thoroughly understood there will be very little trouble in teaching division. Division tables are taught with multiplication tables and in connection with mental work.

Carrying at first is made very simple, beginning with examples where only one figure is to be carried, then two and so on until the child has mastered the work.

Fractions are taught with division. Circles, papers, diagrams, etc. are used to explain and illustrate.

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In following out the above methods, it is to be hoped that the desire—to arouse the self activity of the child, and the aim—to impart knowledge by developing the reasoning powers, have to some extent been successful.

Eleanor L. Toner, P. S. No. 137.

THIRD YEAR—SECOND HALF.

COURSE OF STUDY:—Addition:—The sum of addends not to exceed 100,000; number of addends not to exceed six; $ and cts.

Subtraction: The difference between numbers below 100,000; $ and cts.

Multiplication: Product not to exceed 100,000; $ and cts.

Division: Dividends not to exceed 100,000; $ and cts.; divisor not to exceed 25, with carrying and remainder as a fraction.

We aim to develop mental power and skill by means of examples and problems, which are carefully selected and graded to cover the entire work of the grade. Each new step or new principle is taught to the pupils concretely and inductively.

Oral work precedes daily written work.

A prominent part of the oral work of this grade is a comparison of the various units of measure for the purpose of perceiving relations and the cultivation of the imagination. At first the pupils compare the various units of measure through the help of their senses; afterwards they are required to make comparisons without having the magnitudes before them.

Whenever it is found practical the motor activities are employed; the pupils are asked to draw and make the units of measure and fractional units. Here are a few of the many questions that are given: Compare a yard with a foot, a pint with a quart, a pound with 2 ounces, 2 pecks with a bushel, $\frac{1}{2}$ with $\frac{2}{4}$, etc.

In the written work an effort is made to secure greater rapidity in the four fundamental processes. The following topics receive careful attention. In addition the pupils are required to see the different combinations as wholes instantly. They must see 7 and 8 as 15, 6 and 7 as 13, 8 and 9 as 17, and 7 and 9 as 16, etc. 2. The application of the four fundamental rules to United States money, especially concrete examples involving multiplication and division of United States money. 3. Division where the remainders are treated as *fractions* for the first time in the course.

This topic is presented to the pupils in the following form:

$$\begin{array}{r} \text{h}\ \ \text{t}\ \ \text{u} \\ 5)\overline{7\ \ 4\ \ 3} \\ \hline 148\frac{3}{5} \end{array}$$

Explanation: One-fifth of 7 hundreds is 1 hundred, with a remainder of 2 hundreds.

2 hundreds = 20 tens. 20 tens and 4 tens are 24 tens. One fifth of 24 tens is 4 tens, with 4 tens as a remainder. 4 tens = 40

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units. 40 units and 3 units are 43 units. One-fifth of 43 units is 8 with 3 as a remainder; since 1 unit has $\frac{1}{5}$, 3 units have 3 times $\frac{1}{5}$, that is to say, $\frac{3}{5}$; One-fifth of $\frac{3}{5}$ is $\frac{3}{5}$. Therefore, one-fifth of 743 is 148$\frac{3}{5}$.

FOURTH YEAR—FIRST HALF.

In this grade the work in numbers comprises integers to one million; common fractions through nine-tenths and decimal fractions through ninety-nine hundredths.

INTEGERS.—This includes rapid addition and subtraction; multiplication in which the written multiplier may contain three figures and the oral multiplier not exceed the number twelve; and division in which the divisor is not to exceed three places.

When multiplying or dividing dollars and cents by ten, the decimal point is to be removed either to the right or left as the case may be. This is presented by having the child do the actual division and then drawing his attention to the relative positions of the decimal point before and after the division. This is to prepare the child for more advanced work in decimals.

FEDERAL MONEY.—As the children have been previously taught simple problems, using the dollar sign and the decimal point, I now build upon this foundation and combine two or more of the simple rules, thus introducing the form and method of working a bill.

Federal Money in practical application includes the simple cases of "Profit and Loss," the dividing of money by money to find the number of articles, and the compound cases of division and multiplication and double division.

PROBLEMS.—These are of two types: To find what part one number is of another. To find a fractional part of a number. Both are presented objectively or by diagrams drawn on the board. The former includes a reduction that may be easily done by inspection.

FRACTIONS.—In taking up fractions, I have the children cut paper squares, dividing them into equal parts until they understand the meaning of a unit, and that its subdivisions form the fraction. They are now ready to compare fractions and to simplify this comparison we use five series.

The first series comprises halves, fourths and eighths.

The second series comprises thirds and ninths.

The third series comprises fifths and tenths.

The fourth series comprises halves, thirds and sixths.

The fifth series comprises halves, fifths and tenths.

We continue using the scissors and paper to verify these comparisons, or, perhaps, draw diagrams on the board until finally, by inspection, the children are able to add and subtract the fractions of the same series. Mixed numbers may now be introduced and simple problems involving the use of the same.

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DECIMAL FRACTIONS.—In the introduction of decimal fractions we combine the child's knowledge of common fractions and Federal Money. Tenths is interchangeable with dimes, hundredths with cents.

DENOMINATE NUMBERS.—The several weights and measures are taught as far as practicable with the use of the measures. The pupils find the units of measurements in the class room, and secondly do the actual measurement for verification.

Simple problems in reduction from one denomination to another may now be introduced.

AIM AND PLAN OF WORK.—As the new always includes the old, my plan, when taking up a new element, is to rapidly review the old and select what will best serve to introduce the new. This work is more or less mental.

Instruction and drills are given on the first four days of the week, when mistakes are carefully noted, that they may be corrected, and that point especially dwelt upon; and the pupils that are particularly backward may have individual supervision.

On Friday a general review of the week's work is given and papers are marked as to correctness of reasoning and mathematical ability.

At the end of every month a more general review is given, embracing the principal features of the month's work.

Laura Morrison, Class Teacher P. S. No. 117.

FOURTH YEAR—SECOND HALF.

A careful comparison of the requirements in Arithmetic for Grades 4 A and 4 B, will show that the work laid down for the latter follows very closely along the lines of work mapped out for the preceding grade,—4 A.

The work called for in 4 B, is really an extension of the work done in 4 A. The *advance* work of 4 B consists almost entirely of work in fractions, both common and decimal.

Grade 4 B continues work in Simple Numbers to 1,000,000; fractions to $\frac{9}{10}$ and .99.

In Denominate Numbers we are to consider the following;——

(1) Federal Money; (2) time measure; (3) dry measure (pt., qt., s. m., pk., bu.); (4) liquid measure (gi., pt., qt., gal.); (5) measures of weight (oz., lb., ton.); (6) linear measure (in., ft., yd., mi.)

In the "Relation of Numbers," the Course calls for practice in the four rules; combination of two or more rules, multiplication and division by moving the decimal point is extended to 100; (by 10 was taught in 4 A.)

Children are to be taught to find part of a number; and also, to find what part one number is of another.

"Comparison of units of measurement" is called for; compare, for example, pint with quart, etc.

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When we come to Fractions, the Course calls for reduction of fractions by inspection; adding, subtracting and multiplying easy common and decimal fractions, and mixed numbers: multipliers to be integers; combine addition and subtraction; find part of a fraction, common or decimal.

Children are to make actual measurements as far as practicable by the denominate units of the grade. Give simple problems involving the use of these denominate units; also problems involving the use of two or more rules in Federal Money; teach aliquot parts of a dollar, as halves, quarters, fifths, tenths; and, lastly, the making of bills is to be taught.

The above statements outline the course to be pursued in this grade,—4 B.

After careful consideration, I have divided the work into the following method units.

I.—(*a*)—Combinations of simple rules. (*b*) Combinations of simple rules, involving the use of Federal Money.

II.—Multiplication and Division by 10 and by 100 by moving the decimal point.

III.—(*a*)—To find part of a number. (*b*) To find what part one number is of another.

IV.—Reduction of fractions. (*a*) Whole and mixed numbers to improper fractions, and vice-versâ. (*b*) To higher terms. (*c*) To lower terms. (Make use here of the "fractions in series" taught in 4 A).

V.—Adding fractions.

VI.—Subtracting fractions.

VII.—Multiplying fractions and mixed numbers by integers.

VIII.—To find part of a fraction (common and decimal.)

As an illustration of the methods pursued in presenting the work, I shall work out in full one or two of the above named "method units."

(1). To multiply a mixed number by an integer.

The children are familiar, by this time, with all the terms used, as integer, proper fraction, mixed number, etc.

They have also been taught to multiply a *fraction* by an integer.

PROBLEM.—To multiply $6\frac{1}{2}$ by 5. (1st method.)

$5 \times 6 = 30$

$5 \times \frac{1}{2} = \frac{5}{2}$ or $2\frac{1}{2}$

Adding,—$5 \times 6\frac{1}{2} = 32\frac{1}{2}$

Simpler way of expressing the work,—

$$\begin{array}{r} 6\frac{1}{2} \\ 5 \\ \hline 2\frac{1}{2} \\ 30 \\ \hline 32\frac{1}{2} \end{array}$$

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2nd. method. Reduce the mixed number to an improper fraction,—then proceed as in multiplication of fractions.

$$6\tfrac{1}{2} \times 5$$

$6\frac{1}{2} = \frac{13}{2}$ $\qquad$ $\frac{13}{2} \times 5 = \frac{65}{2}$ or $32\frac{1}{2}$.

To find part of a fraction.

If children are taught to look upon the denominator, simply as a *name*, a great deal of trouble can be avoided.

The work here falls naturally into three steps.

(1) $\frac{1}{3}$ of $\frac{3}{4}$. Preparation: $\frac{1}{3}$ of \$3? $\frac{1}{3}$ of 3 apples? etc.

$\frac{1}{3}$ of $\frac{3}{4} = \frac{1}{4}$

(2) $\frac{2}{3}$ of $\frac{3}{4}$.

Solution: $\frac{1}{3}$ of $\frac{3}{4} = \frac{1}{4}$.

$\frac{2}{3}$ of $\frac{3}{4} = 2 \times \frac{1}{4} = \frac{2}{4}$ or $\frac{1}{2}$.

(3) $\frac{1}{2}$ of $\frac{1}{3}$.

Change $\frac{1}{3}$ to $\frac{2}{6}$ (Here we are again making use of the "fractions in series" taught in 4A).

Then $\frac{1}{2}$ of $\frac{2}{6} = \frac{1}{6}$.

And now, for a few general remarks on methods of presentation, correction, etc.

Arithmetic treats of the relations between numbers and quantities. In each example, the numbers bear a certain relation to one another. If the child can reason out this relation, the danger of "wrong answers" is reduced to a minimum.

Wrong answers may be traced to two great causes:

(1). Faulty reasoning; (2) errors in computation.

It is a good plan to allow children to express the relations between the numbers in a given problem, before they work out the problem on paper. In this way, we develop the child's reasoning powers, and also exercise him in expressing his thoughts clearly.

When a new process in arithmetic has been developed, allow the children to give original problems; encourage them to ask questions of one another: require the class to work out the problems given by the children. This sort of work stimulates them to think clearly.

The relation of the new work in arithmetic to other known parts of the same subject, should always be clearly shown.

Errors in computation—the dangers of wrong answers due to faulty computation may be lessened by judicious work in mental arithmetic. Our aim here should be to insure accuracy and rapidity in dealing with numbers; and also to prepare the class for written work. It is better not to give *direct* aid to children, as far as the written work goes, rather suggest easy problems which will lead up to the more difficult ones in hand.

After a problem has been solved, require, at times, a statement of the work just done: here again is valuable work in language. In mental work, the problems should be varied, and practical, and deal with all the ordinary processes of arithmetic.

Emma Sylvester, Class Teacher, P. S. No. 23.

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FIFTH YEAR—FIRST HALF.

Outline in arithmetic for Fifth Year, First Half.

I.—Simple numbers, integers, fractions, mixed numbers.

1.—Four rules, rapid addition, multiplication and division by 10, 100, 1,000 by moving the decimal point. Divisions of fractions, common and decimal; common fractions, decimal fractions and per cent. compared.

2.—Combination of two or more rules; cancellation.

3.—Three types of problems—

a. To find a part of a number, a fraction or a mixed number, apply aliquot parts of a dollar. *b.* To find what part one number is of another. *c.* To find the number, a part being given.

II.—Denominate Numbers.

1. Reduction to higher or lower denominations. 2. Addition and multiplication.

Business Applications.

I.—Industrial—

1. Actual measurements by denominate units; comparative judgments. 2. Measurement of surfaces and boxes by application of square and solid units.

II.—Commercial—

1. Bills and bills receipted. 2. Personal accounts.

METHODS OF INSTRUCTION.—The method of treatment is principally inductive and synthetic. Nearly all the work is presented in the concrete. Oral work precedes and accompanies written work. It generally consists of rapid, varied and irregular problems in the elements of arithmetic. Rapid calculation is an excellent lesson in concentration.

Lessons are reviewed daily. Every rule is demonstrated orally by a concrete problem, and pupils are thus led to see the nature of the work performed.

This leads up to the rule. The children are not required to learn the rule. When they have grasped the idea and meaning of the rule and can solve problems involving the same, it is quite unnecessary to learn a book-worded definition.

The children are encouraged to form new problems for themselves. This tests their knowledge of the work. A great number of small problems are given in preference to a few lengthy ones, and monotony is thereby as much as possible avoided.

With regard to the written work, carefully arranged books and papers are insisted upon to inculcate habits of neatness and accuracy.

Answers are not accepted unless absolutely correct.

Errors are indicated, and after the exercise has been thoroughly explained the incorrect work must be rectified.

The entire outline of work laid down for the grade is thus treated—combining rules, wherever possible, and endeavoring to

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make the work practical, leading on to habits of reasoning, exactness and accuracy.

A. M. Schultz, Class Teacher P. S. No. 20.

FIFTH YEAR—SECOND HALF.

The method of instruction and the plan of discovering and correcting errors in the pupils' work are as follows:—An example is given to be worked by all the members of the class. When the pupils have finished their work, a few are called on for results. I repeat one of these answers and call upon those having it to indicate the fact. This may or may not be the correct one, the point being to compel every member of the class to announce his answer and stand by his decision. A member of the class whose answer is correct is sent to the board to work out the example. All whose work varies from the demonstration are required to compare their work with that upon the board. In this way each member of the class discovers his errors.

When the demonstration is complete, I call upon those who have not discovered the mistakes in their solution of the problem to make known the fact, and individual attention is given to them.

The next step is to dictate an example or problem embodying the same principles in order to test the pupils' newly-acquired knowledge. If the results are satisfactory, the lesson moves on to a new problem.

One problem is all that is presented at a time, so that the pupils may concentrate all their attention upon a small field of view, and the recitation ends when a definite point in the arithmetical work is made clear. At the monthly reviews four or five examples may be given to be worked as an examination paper; but this method is never used during the instruction period.

In rating the examination papers, all correct solutions are left free of marks; those that are wrong are marked with a cross. Errors in the simple rules, however, are not considered as serious as errors in the process.

Marianne Brennan, Class Teacher, P. S. No. 20.

SIXTH YEAR—FIRST HALF.

The fourth type of problem is taken up for the first time in this grade. We follow a strictly inductive method. 1. We present easy examples in fractions and decimals of this type. 2. The solutions of these examples are placed on the board by the pupils under the guidance of the teacher. 3. Pupils are asked to observe and compare the steps by which the solutions are reached. 4. Then by

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means of questions the underlying principles for working these examples are established. 5. Problems of this type are dictated to the pupils who are required to solve them without the teacher's help.

Percentage is also begun in this grade. This topic is presented in the following order. Preliminary exercises are given to the pupils to develop the idea that *per cent* means *hundredths*, and therefore the fractions $\frac{3}{100}$, $\frac{5}{100}$, $\frac{7}{100}$, $\frac{9}{100}$ may be written .03, .05, .07, .09, or expressed by the figure and the sign % as follows:

3%, 5%, 7%, 9%.

Then the children are drilled to write per cent. expressions in the form of fractions or decimals. Now the pupils are ready to find the percentage. This they are taught to do by stating every problem in percentage in a fractional form, common or decimal, and then proceeding to solve it as they have been accustomed to do heretofore. Thus the first type-form is the apperceptive element for finding the percentage of any number.

In teaching what per cent. one number is of another, the pupils are led to see that these problems are really identical with the problems of the second type which they have learned in the previous grade.

The industrial applications are presented by means of concrete illustrations and the pupils are required to perform actual measurements of surfaces of objects within their immediate environment. For instance they are asked to estimate the length and width of the black-board, top of desk, door, book-case, etc., and then they are required to find the actual measurement, by means of the ruler.

SEVENTH YEAR—SECOND HALF.

The Course of Study for this grade prescribes rapid and short processes with integers, fractions and mixed numbers, percentage and proportion, the study of rectangles, parallelograms, triangles, circles, cubes and prisms with industrial applications; also, square root, with application of the same. Under "Commercial Arithmetic" is required a knowledge of percentage, interest, discount, exchange and all business forms in connection therewith.

The presentation of the matter to be taught was preceded by a thorough review of such work of other grades as led up to the subject studied, special attention being given to the relation of numbers. A thorough knowledge of common and decimal fractions and the principles of percentage was required in order that the pupils might be properly prepared to understand the business arithmetic of the grade. In trade discount and its effect the difference

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between a single discount and two successive discounts was carefully shown. In accurate interest the point to be impressed is that not only is the time exact as to the number of days, but also that the base of computation is 365 days and not 360 days, as in simple interest. In studying true discount, the pupils were made to clearly comprehend the relation which the present value, true discount and face of the debt bear to principal, interest and amount. The likeness of bank discount to simple interest with difference in mode and time of payment was carefully noted. In exchange, the filling out of printed drafts by the class, representing different pupils as factors in a business transaction, brought about a good understanding of the matter. In compound proportion a complete statement as to cause and effect was required in explanation of the ratios in the proportions. In all work relative to area, blackboard illustrations, geometric models and paper properly folded and cut were found to be valuable aids. When area is understood, cubic contents and the three dimensions are readily appreciated by the pupils. In square root and its applications the inductive method followed by the deductive was carefully observed. The first blackboard illustration used was an initial square to the two adjacent sides of which were added parallelograms with a corner square to complete the given square.

Arithmetic is a subject which cannot be correlated with other subjects of the grade, except language and mathematical geography. Questions are stated in clear and concise language and the answers and explanations by the children must be given in exact and accurate terms. The written and oral work in arithmetic go hand in hand.

In indicating errors, if the method be correct, the entire work is crossed off; if the error be one in some simple rule, a (x) cross over the mistake indicates where the error has been made. In the latter case the children correct their own errors. In the former, especially if the mistake be general, the problem is worked over upon the blackboard while each step in the work is thoroughly explained.

Sarah Breese, Class Teacher P. S. No. 53.

Announcement.

The next issue of the MONOGRAPHS will treat of the "Problems of Class Instruction." Dr. George Smith, under whose direction the Monograph is being prepared, purposes to have discussed, illustrated and amplified, the principles of instruction which have been accepted by those who have made education their life study and practice. A perusal of the titles printed on another page of this number, will show that the wide range of topics included in "Class Instruction" will be treated by teachers who have gained eminence both in this country and abroad.

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